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Perspectives of distinguished teaching award winners : personal meanings of teaching.

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PERSPECTIVES OF DISTINGUISHED TEACHING AWARD WINNERS: PERSONAL MEANINGS OF TEACHING

A Dissertation Presented

by

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DEDICATION

This project was inspired by, and is dedicated to, the many good teachers whom I was lucky enough to encounter during my journey through the educational process known as life. Most particularly, I want to recognize:

My parents, who taught me that not only is everything in life a source of learning, but that I am capable of learning anything that I choose to learn and will be richer for doing so, because they also taught me the discipline necessary to attend to the details that make a difference;

Bernard G. Berenson, mentor, teacher, colleague and best friend, whose wisdom and support have been a powerful influence on who I have become, and who has helped me to learn fundamental lessons about the importance of perspective, human intellect and our definition of our relationship to the world in creating possibilities for the human community;

Johnstone Campbell, advisor, chair and friend, who introduced me to points of view that both challenged me and made a great deal of sense to me, and whose advocacy, patience and reflective support for my thinking over the long haul has made all the difference in the world;

My husband Richard, who gave his support and help at the crucial moments, and whose own commitment to excellence in things that matter to others beyond himself provides a lesson worth heeding;

My daughters, Amy and Kristen, who both delight me and keep me humble by constantly teaching me how much I don't know; and

The participants in this research project who, very characteristically, were generous with their time, their knowledge and their desire to contribute to an enterprise which might add to what is known about good teaching and how to encourage its development.

ABSTRACT

PERSPECTIVES OF DISTINGUISHED TEACHING AWARD WINNERS:
PERSONAL MEANINGS OF TEACHING

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Despite evidence that an understanding of the individual's interpretive framework is an important factor in understanding effective teaching, there is little research in higher education which addresses this variable. The purpose of the study was to facilitate an understanding of the personal context within which the behaviors and strategies of effective teachers exist. Designed as a case study of the University of Massachusetts Amherst Distinguished Teaching Award winners from 1962 to 1995 (N=47, 69% of total population, representing all of the Schools/Colleges within the University), it employed a written survey to gain data about faculty backgrounds and adoption of teaching attitudes and activities which the literature has identified as characteristic of effective teachers, followed by in-depth interviews (N=14) to explore the participants' personal constructions of the process of teaching.

The major findings include: all participants' definitions of teaching reflected a constructivist orientation to the process; a consistency in participants' definitions of the major goals and processes of teaching, and motivations and rewards for teaching across age, discipline, and sex; close attention to their own and their students' experiences is the primary source of learning about and motivation for teaching; the goal of relating to students is to facilitate learning, thus participants define an appropriate faculty-student distance in their relationships with students; teaching is considered an activity with intellectual value; evidence of individual shifts in the construction of their goals for teaching and of their relationships with students, their content and the context that parallel established schema for epistemological and intellectual development, indicating the possibility of a psychological developmental aspect to the development of effective teachers.

Some implications for further research include the need for efforts to clarify possible epistemological developmental aspects to the development of faculty as teachers, to research the connections between developmental stage and teaching effectiveness and conceptualization of efforts to improve teaching as incorporating more than attention to methods.

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INTRODUCTION AND PROBLEM STATEMENT

A. Background

"The ultimate source of good teaching lies not in the technique but in the identity of the teacher....."

P. J. Palmer (1993)

"Development for teachers, like all developmental change, seems to be better understood as involving a changing logic, a new way of seeing and being in relationship with learners and learning."

N. Lyons (1994)

"Perspective is everything."

B. G. Berenson
(Personal communication)

"Efforts to improve and understand teaching need to include exploring and expanding the teachers' understanding of their own assumptions about learning, teaching and knowing and the ways in which these assumptions interact with chosen methods, content and . . ."

D. D. Anderson (1994)

These quotations capture some basic propositions about an important variable in understanding good teaching, perhaps the most important variable: teachers as constructors of the conditions and meaning of their task. These propositions emerge from a growing body of literature in a multitude of disciplines, including the study of learning, cognitive development and teaching, that culminates in a challenge to the dominant positivist

paradigm's claim to providing an adequate explanation of the dynamics of the world.

The dominant paradigm assumes that the world, and our kowledge of it, is an entity that exists independent of the observer. If subjected to sufficient controls, it can be understood and mastered, predicted and controlled by the application of certain procedures independent of the persons doing the descriptions, observations and controlling. The primary research strategy is that of experimental control, which in education is known as "process-product" research (Shulman, 1986). The approach assumes that, by behaviorally defining the relevant dimensions of teacher and student and controlling the context, generalized laws of practice can be identified.

But a different paradigm, emerging from research that has occurred over the past thirty years in a variety of fields, has been increasingly gaining attention as a legitimate, if not more adequate, way of understanding the world. It calls into question the adequacy of the positivist-based process-product research paradigm for fully understanding phenomena in any field, including education (Cambel, 1993; Gleick, 1987; Kuhn, 1970; Lincoln & uba, 1985).

The emerging paradigm views the world as being complex and non-linear, phenomena as being mutually causal and "reality" knowable from many perspectives (Lincoln & Guba, 1985). Under this paradigm, the person is a constructor of

meaning, a mediator in the process of understanding and acting, without whom there is no such thing as knowledge. This role is being recognized as a factor that has not been adequately tapped by the traditional emphasis on observable behavior alone (Kitchener, 1983a, 1983b; Lincoln & Guba, 1985; Prawat, 1992; Schön, 1987; Shulman, 1986, 1987). Efforts to better understand good teaching and learning are no exception.

"Good teaching is complex and not entirely understood" (Sorcinelli, 1993, p. 120). The challenge to researchers in teaching is to understand something which is more than the product of its parts, a sum mediated by the person of the teacher. Yet the bulk of the teaching research, operating from the "process-product" paradigm (Shulman, 1986), has focused on the parts.

For example, in a review of the research on college teaching and learning produced by the process-product paradigm, McKeachie, Pintrich, Lin, and Smith (1986) develop a model that organizes the current research findings on teaching into research on input variables, process variables and outcome variables. The process variables include academic task characteristics, student motivation, instructional methods, and student cognition, but no mention of the teacher as a meaning maker.

Despite the attempts of researchers to identify clear-cut "correct" methods for good teaching, they found little evidence to support the use of one method over another

method of teaching. It seems that methods must be considered within the context of the teacher's assumptions about and goals for teaching, and the teacher's ability to relate those assumptions and goals to the students' frame of reference. Similarly, Guskey (1988) clearly isolates the teacher as the variable of most impact in student learning, but analyzes the teachers' impact solely in terms of teacher strategies.

Historically, there have been voices which advocated the necessity of considering more than observable behaviors when attempting to understand teaching and learning, beginning with Piaget and Dewey. There is currently a growing interest in and influence of ideas like the "reflective practitioner" and feminist/critical pedagogy, ideas that are explicitly constructivist in their explanation and understanding of good teaching (Baskett & Marsick, 1992; Culley & Portuges, 1985; Palmer, 1983; Schön, 1987; Shor, 1987; Sparks-Langer & Colton, 1991; Ross, Cornett, & McCutcheon, 1992; Tripp, 1993).

These approaches seek to understand and nourish the individual's awareness of the ways in which he/she constructs meaning, tests meaning and re-constructs meaning. They focus on promoting the person's ability to reflect upon, integrate and make sense of experience as a key component in elevating the quality of teaching. Teaching is viewed as a creative, thinking, personal process that should enable the participants to construct

and reconstruct their worlds. This leads in a different direction from the educational research that attempts to isolate teacher characteristics, roles, methods and skills as the independent variables which impact student learning.

The positivist, process-product approach to understanding good teaching has made large contributions to our ability to improve teaching, for ultimately action is important. But it alone may not be sufficient in the face of emerging challenges. Understanding good teaching may well require more than understanding teaching methods.

B. The Problem

There is currently not a large body of research which systematically attempts to understand the voices of good teachers and their constructions of task and context that guide their use of strategies and methods. Reviewers of the teaching research (Blackburn, Lawrence, Ross, Okoloko, Bieber, Meiland, & Street, 1986; McCord, 1985; McKeachie, 1990) contend that

> what is missing from the knowledge base of teaching . . . are the voices of the teachers themselves, the questions teachers ask . . . and the interpretive frames teachers use to understand and improve their own classroom practices. (Sparks-Langer & Colton, 1991, p. 41)

It would seem that teachers who have been recognized for outstanding teaching by their students and peers should be contributing a major voice to the knowledge base of teaching. Yet a current literature search uncovers very little research on the winners of university Distinguished

Teaching Awards, except for individual interviews, collections of individual answers to questions about teaching or group portraits of the "characteristics" of good teachers.

The research found to date does not include attempts to analyze the meanings of the answers or the assumptions about the teachers' relationships with teaching, learners and learning (Biedler, 1986; Dunkin & Precians, 1992; Eble, 1986a; Kelly & Kelly, 1982). Studies also suggest that their expertise and personal knowledge is seldom tapped by their home institutions in a way which effectively draws on their potential as valuable resources for understanding or improving teaching (Adams, 1977; Francis, 1976; McNaught & Anwyl, 1992; Schwartz, 1992).

The winners of the Distinguished Teaching Award at the University of Massachusetts Amherst are no exception. They represent a group of good teachers, spanning a period of over thirty years, whose voices have never been collectively studied or heard. This study systematically listened to their perspectives on teaching, to describe the ways in which they think about their teaching, the assumptions they make about teaching and how, implicitly or explicitly, their perspectives and assumptions guide their practice.

C. Purpose of the Study

The purpose of the study is to give a collective voice to a group of "good teachers." By examining how they think about, interpret and make meaning of the experience called teaching and of their relationships with learners and learning, it will facilitate understanding of the personal context within which the characteristics, behaviors and strategies of the good teacher exist. If the emerging constructivist paradigm provides a more adequate interpretation of the world than the positivist paradigm which has dominated research so far, then this personal context is an important factor in the development and practice of teaching.

The group of good teachers studied consisted of recipients of the University of Massachusetts at Amherst Distinguished Teaching Award between 1962 and 1995. The study examined the logic from which they construct their teaching and explored the possibility of dominant themes in the logic. In the analysis, it also asked if understandings of teaching and learning have shifted over time, as a new paradigm for understanding the world has gained legitimacy.

D. Research Questions

To provide a starting point for understanding the Distinguished Teaching Award winners' personal

constructions of teaching, the following research questions were proposed.

1. How do the winners of the Distinguished Teaching Award define or understand teaching? Learning? Their relationship to the processes?
2. How did they come to their understandings?
3. What motivates them?
4. What meaning does the Distinguished Teaching Award have for them?

E. Definition of Terms

Paradigm: A paradigm, in the largest sense and as used here, may be defined as the set of systematic beliefs or assumptions about the nature of reality that is held by a given group of people. This underlying set of assumptions is the result of socialization into a particular community, and predisposes the holder to view some knowledge, interpretations and methods as more legitimate, important and reasonable than others (Lincoln & Guba, 1985). The normalizing paradigm makes it possible to ask and research some questions, while other questions are not considered relevant or researchable.

Kuhn (1970) articulated the crucial role of the paradigm in guiding the conduct and progress of science. He also explored how the dominant paradigm for understanding the world has shifted several times over the

course of history, as each paradigm proved to be inadequate in accounting for all of the observed phenomena.

Positivism (dominant paradigm): Positivism has been the dominant theory of knowledge in Western culture since the Age of Enlightenment. A basic assumption is that of a strict subject-object dichotomy between the person and the world. In this view, the world (and thus knowledge) exists independent of the person; the knower must strive to be uninvolved with the known; legitimate research emphasizes increasing logical and methodological rigor in order to control conditions and separate the knower from the known; legitimate knowledge only emerges from the process of creating controlled change in one isolated variable in order to observe, in a detached fashion, changes in another variable; the end goal is prediction and control of the natural and social world (Bredo & Feinberg, 1982).

Lincoln and Guba (1985) summarize the positivist paradigm in a set of five axioms, or "undemonstrated (and undemonstratable) "basic beliefs" accepted by convention or established by practice as the building blocks of some conceptual or theoretical system" (p. 33). From the dominant positivist paradigm, it is assumed that (1) there is one reality, tangible and fragmentable, (2) the knower and the known exist independent of one another, (3) it is possible to generalize across time and contexts, (4) the world operates by a clear temporal cause and effect process and (5) inquiry and knowledge are value free.

In education, positivism is seen in the dominance of the process-product research agenda (Bredo & Feinberg, 1982; Shulman, 1986), which focuses upon identifying which input behaviors of teacher or student are observably and measurably related to what output behaviors, in hopes that we can understand how to get more output for our input. It is also reflected in the pervasive view that knowledge is a commodity, that teaching primarily involves a one-way flow of information from teacher to student and that good teaching equals efficient transmittal of the maximum quantity of knowledge from teacher to student (Cornwell, 1991).

Emergent paradigm: As the natural sciences began to uncover increasing numbers of observations that could not be satisfactorily explained within the assumptions of the positivist world (Kuhn, 1970) and as the social climate of the late 1960s led many in the social sciences to consider the possible requirement for understanding the way events are constructed by those being studied (Bredo & Feinberg, 1982), a different paradigm began to more strongly challenge the positivist dominance. Lincoln and Guba (1985) summarize the findings of Schwartz and Ogilvy, whose analysis of the concepts emerging in disciplines ranging from physics to brain theory to psychology converge on a world view almost diametrically opposed to that of the dominant paradigm.

The emergent paradigm assumes that (1) reality consists of multiple perspectives, is socially constructed and is holistic, or not able to be broken into independent fragments, (2) knower and known are interactive and inseparable, (3) it is not possible to generalize across time and context with any certainty, (4) all entities are in a state of mutual simultaneous shaping so that cause and effect cannot be clearly distinguished and (5) inquiry and knowledge are value bound.

Constructivism: Constructivism is the view that "persons or systems constitute or construct reality" (Kegan, 1982, p. 8). People are primarily meaning makers, for whom "reality" is composed in the space between object and person. People may construct different realities from the same stimulus object, each reality possessing a logic, consistency and integrity all its own (Kegan, 1982). From the constructivist viewpoint, it is as Goodman (1972) concluded when reflecting on "The Way the World Is": there are many ways the world is, depending upon who is describing it.

In other words, "our perceptions, appreciations and beliefs are rooted in worlds of our own making that we come to accept as reality" (Schön, 1987, p. 36). And these individual constructions have implications for practice. A person, guided by his or her view of reality, will choose and name the things to be noticed in any given situation. He or she will thus construct the nature and terms of the

problem, so familiar theory and technique can be applied to solve it. Breakthroughs and improvements in practice come in part when the practitioner constructs a different view of the situation, thus allowing the application or creation of different knowledge, theory or technique.

Reflective practice/thinking: The concept of reflection has its roots in the work of John Dewey in the early 1930s, and has come to the forefront of efforts to improve professional practice as the emergent paradigm has gained a more wide-spread acceptance. Donald Schön's (1983) treatment of the idea, The Reflective Practitioner, provided a focus for attempts to better define and make useful the concept of reflection.

Programs to teach reflective practice to professionals have been developed in a variety of fields, including education (Baskett & Marsick, 1992). In education, the growing interest in it is partially a reaction to the overly technical and simplistic views of teaching (congruent with the positivist paradigm) which dominated the 1960s, '70s and '80s (Sparks-Langer & Colton, 1991). These views are beginning to be acknowledged as inadequate for "the complex, situation-specific, dilemma-ridden endeavor teaching really is" (p. 37).

Though there is not one universally accepted definition, reflective thinking is concerned with the meaning practitioners construct through their interaction with the situation, their perceptions of it and their own

experiential base, or tacit knowledge (Schön, 1987). Over time, competent practitioners build a large reservoir of tacit knowledge about practice, not easily articulated but there to act upon. Reflection is the process of making explicit the implicit tacit knowledge, and generating constructions of practice which are more available for personal and shared future application and transfer.

In teaching, reflective practice involves personal reflection on and analysis of the pedagogical principles underlying one's teaching decisions, the contextual factors affecting the application of those principles and the moral, ethical or political issues surrounding the teaching experience. More complex levels of reflective thinking enable the practitioner to make more flexible, sensitive, appropriate and effective decisions in the classroom (Sparks-Langer, Simmons, Pasch, Colton, & Starko, 1990).

Distinguished Teaching Award: In general, awards given to faculty which are designed to provide recognition for excellence in teaching and, in some cases, for outstanding leadership contributions to the university community. These awards are intended to call attention to the importance of good teaching, to compensate for the fact that good teaching is not always rewarded in tenure and promotion decisions and to motivate faculty to increase the quality of teaching offered.

These awards may be given at the School/College level, at the University level or by professional associations at

the state/national level, such as the CASE Professor of the Year (CASE, 1993) and the Lilly Fellow awards in the US and the 3M Teaching Fellowship awards (STLHE, 1994) in Canada. There is wide variation in the form of the awards, ranging from the simple identification of an outstanding teacher to the granting of monies and release time to be invested in further promotion and research of effective teaching.

The Distinguished Teaching Award at the University of Massachusetts Amherst was established in 1962 to recognize outstanding teaching. All faculty, full-time, part-time or adjunct, who have taught at the university at least two semesters are eligible. Graduate teaching assistants have also been recognized for excellence in teaching since 1972.

Faculty are nominated for the award in writing by students in October. Nominations are reviewed by the Faculty Distinguished Teaching Award (FDTA) committee, which is comprised of one or two undergraduate students, one or two graduate students (normally award winners from the previous year) and one or two faculty members (normally former award winners). The FDTA committee submits a list of the six top finalists to the Dean of the Graduate School, who makes the final selection.

The award winners are announced at the end of April. The winners receive a plaque and a stipend of $3000, and are recognized at a dinner and during Graduate and Undergraduate Commencement ceremonies.

The data about the nominees which is collected by the FDTA committee consists of a letter of evaluation by the Chair or Director of each nominee's department or school, a student evaluation form completed by the students in each of the nominee's Fall and Spring semester courses and supplementary evaluation forms completed by former students and colleagues. The nominees are ranked by the FDTA committee using the following criteria:

1. Competence in academic field of specialty
2. Imaginative, innovative approaches to teaching
3. Effective, just methods of examining and grading
4. Good rapport with students, including long-term influence after students have graduated
5. Range and versatility: different kind of course or courses at both undergraduate and graduate levels
6. Length of University career
7. Percentage of student response.

Candidates are not ranked so as to create pre-determined distributions among departments or schools or between sexes (Sorcinelli, 1994).

Distinguished Teaching Award Winner: Those faculty who have been recognized by the receipt of a Distinguished Teaching Award between 1962 and 1995. The group of winners numbers 92 faculty, one of whom has been recognized twice in his career. The University recognized one faculty member each year from 1962 to 1966, two faculty members in

1967 and three faculty members each year from 1968 to 1995, except for 1990, when four were recognized.

F. Significance of the Study

The literature on Distinguished Teaching Awards has been focused, to a large extent, on the impact of the award itself on faculty motivation and teaching efforts (Adams, 1977; Francis, 1976; Korn, 1987; McNaught & Anwyl, 1992; Schwartz, 1992). There is little systematic research that investigates award winners as a group or attempts to look for patterns in the meanings they construct. The literature treats individual perspectives (Biedler, 1986; Eble, 1986) or, in the process-product mode, reduces teacher thinking to operational concept categories, of which the distinguished teachers possess more (Dunkin & Precians, 1992).

Consistent with this situation is the preponderance of research on teaching which focuses on the characteristics and behaviors of effective teachers. The literature is replete with lists of desired strategies and behaviors for improving teaching.

While an understanding of teaching behaviors and strategies is important, it doesn't address a central variable in the equation: the thinking and problem construction of the individual teacher that leads him/her to select one strategy over another. If, as the emergent paradigm for understanding the world postulates, knowledge

is perspectival (reality is utterly dependent on human cognition), then our knowledge of effective teaching needs to take into account the thinking of its actors.

This study is intended to help fill that gap, to take into account the thinking of effective teachers, to investigate the world(s) they inhabit. The findings hopefully provide a perspective which will be useful in guiding the thinking of others who are interested in improving their teaching. The study also identifies directions for further investigations of the thinking of effective teachers.

G. Limitations of the Study

There are limits to the generalizability of the findings of the study. The primary method was qualitative, in the form of in depth interviews with participants. Qualitative research itself does not make claims to generalizability beyond the specific context within which the research is conducted. The sample size was small, represented only one specific Research I university in American higher education and included only teachers who gained tenure in this particular system. This may exclude the thinking of teachers who, while excelling in the classroom, did not meet the research and publication standards required for tenure.

In addition, the study did not include a comparison/control group, so it was not possible to state

positively whether or not the Distinguished Teaching Award winners' patterns of meaning making are unique to them, or characteristic of other teachers as well. For patterns found, further study will need to be done to determine if their thinking is indeed significantly different from other teachers' thinking.

Nor did this study obtain data directly from the students. Beyond stating that these teachers were nominated by students for teaching excellence, it was not possible to examine how the teachers' perspectives may translate to student experience, or if there was a congruence between the teachers' experience of self and the students' perceptions. Although one study which examined teacher orientation to teaching (Kember & Gow, 1994) found that a "facilitation of learning" orientation (a characteristic of the sample studied) was positively correlated with deeper levels of student learning and meaning making, while the "transmission of knowledge" orientation was not, suggests a congruence, this question is worthy of later investigation.

The examination of specific teacher behaviors was also outside of the boundaries of this study, except as reported by the participants themselves. Thus the possible connections between teacher constructed meaning and the adoption of certain teaching methods or strategies were not explored. It may be said then that the study did not

generate findings that can be "applied" to the improvement of teaching within the positivist paradigm.

It was hoped, however, that the study may identify patterns of thought in distinguished teachers that warrant further investigation: of the patterns themselves, of the possibility of developmental sequences of thinking about teaching and of the connections between patterns of thinking and the choice and use of teaching strategies.

H. Organization of the Study

This study is organized into chapters. Chapter I provided a general background for the need to consider additional ways of investigating and understanding good teaching, and states the problem to be researched. Chapter II presents a review of the literature related to the emergence of constructivist trends in the learning, thinking, cognitive development and teaching literatures. A description of the study, along with the design for the study of the problem is provided in Chapter III. Chapter IV describes the data that is collected in the study and summarizes the findings. Conclusions and recommendations for further research are presented in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

The perceived need to go beyond the examination of teaching methods, behaviors and characteristics of good teachers to examine how good teachers perceive, think about and construct their process is the result of the convergence of trends in four areas of inquiry. These are (A) research which addresses what we know and what we don't know about good teaching as a result of the dominant process-product research tradition, (B) the literature which supports the emergence of a new paradigm for understanding the world and the research on teaching which is both a contributor to and a result of the emerging paradigm, (C) the emergence of a literature of teacher thinking which admits the crucial role of the teacher's orientation, construction of the tasks, and reasoning, and (D) the literature which addresses human development, particularly social-cognitive and epistemological development. This review will overview these areas and draw some conclusions about the meaning they have for the on-going study of teaching.

A. Teaching in the Dominant Process-Product Tradition

There is a large body of literature dealing with efforts to understand and improve the quality of teaching. The largest influence on that research, by far, has been the "process-product" research program, a direct

application of the assumptions and methodologies of the dominant positivist paradigm (Shulman, 1986). This research program requires that teacher and student characteristics and behaviors be broken down into isolated, largely observable, components, as the researcher attempts to identify which particular teacher characteristics or behaviors influence or correlate with particular student characteristics or behaviors. The goal is the development of generic, universal methods and principles that can be easily applied to problems of practice.

The search for a few generic "best teaching behaviors" has been largely fruitless, despite a large number of studies of teaching behavior and some systematic attempts to link teaching behaviors to student achievement, carried out primarily at the elementary and secondary school levels (Brophy & Good, 1986). The size of the effort is reflected in the number of books that are devoted to summarizing and updating the findings of the research on a regular basis. The Handbook of Research on Teaching (Wittrock, 1986) represents the third edition since 1962. There are also such volumes as The International Encyclopedia of Teaching and Teacher Education (Dunkin, 1987) and the Handbook of College Teaching: Theory and Applications (Prichard & Sawyer, 1994).

The recurring conclusion of this research is that effective teaching involves selecting and orchestrating those teaching behaviors which are appropriate for the

particular students, context, content and educational goals with which the teacher is confronted (Blackburn, Lawrence, Ross, Okoloko, Bieber, Meiland, & Street, 1986; Brophy & Good, 1986; Dunkin & Barnes, 1986; Ericksen, 1984; Fuhrmann & Grasha, 1994; McKeachie, Pintrich, Lin, & Smith, 1986). There does not appear to be a set of universal, specific good teaching behaviors. For example, there is no significant difference in student achievement when lecture and discussion methods are compared, if the goal is the learning of factual material. If the goal is student involvement in problem solving and thinking, then discussion is the better method (Blackburn et al., 1986; McKeachie et al., 1986). The same is true for teacher personal characteristics, such as empathy, warmth, and the use of praise and humor. High levels of these traits are linked with more positive student attitudes toward the teacher, but there is little evidence that these systematically translate to increased student achievement (Brophy & Good, 1986; Dunkin & Barnes, 1986; Guskey, 1988).

Nevertheless, there is some agreement about categories of teacher behavior that are displayed by teachers whose students both consistently rate them highly and demonstrate above average levels of achievement (Guskey, 1988; McKeachie et al., 1986). These categories of behaviors are (1) detailed course planning, organization and structuring of content so that is logically linked and the use of student cues and feedback in the moment and over the course

of the semester to modify plans and structure, (2) positive regard for students, seen in efforts to get to know each student, avoidance of embarrassing students and emphasis of the professional nature of the teacher-student relationship, (3) encouraging student participation by using strategies to involve students with the content, the teacher and, perhaps, each other, and (4) providing specific feedback and reinforcements regularly and promptly.

A major goal of the process-product paradigm is the translation of research findings into prescriptions for practice. Within the cautionary "it all depends . . ." caveat, the research tradition has produced a large adjunct body of literature that spells out how to do specific teaching functions. Based on the best of the current understandings about effective teaching behaviors, this literature is very useful and has provided a starting point for many novice teachers and teachers interested in improving their handling of specific components of the teaching process (Davis, 1993; Eble, 1988; McKeachie, 1986; Weimer, 1990).

One of the best known translators of research to practice is Wilbert J. McKeachie, whose Teaching Tips: A Guidebook for the Beginning College Teacher, first published in 1951, is now in its eighth edition (1986). Based on the latest research, he offers behavioral advice for almost every situation that would confront a teacher,

from what to do three months before the start of a course, to meeting the first class, conducting discussions, giving lectures, constructing and administering tests, assigning grades and conducting one-on-one counseling sessions.

Kenneth Eble, another prominent researcher and writer on teaching in higher education, also offers advice to teachers in The Craft of Teaching (1976) and its second edition (1986). While covering much of the same ground as McKeachie, Eble places greater emphasis on teaching as a relationship between the teacher and the students, and upon the importance of the teacher's personal contributions to the process.

The growth of university based centers for the improvement of teaching and the development of faculty as teachers has also increased both the market for and the number of offerings on specific topics such as how to improve lectures (Cashin, 1985), discussions (Cashin & McKnight, 1986), cooperative learning (Johnson, Johnson, & Smith, 1988), essay tests (Cashin, 1987) and multiple choice tests (Clegg & Cashin, 1986). And as has been recognized in the research, the content or discipline influences the choice of the best methods for teaching. Thus some of the application literature is organized around teaching math, or teaching English (Prichard & Sawyer, 1994).

In 1987, Chickering and Gamson published the Seven Principles for Good Practice in Undergraduate Education,

designed to bridge the gap between the long lists of behaviors and recommendations for effective teaching and the growing body of theory on student development and learning in a manner that emphasized the underlying process dynamics, the "how" of good practice (Chickering & Gamson, 1991). Beginning from the assumption that education is an "active, cooperative and demanding" (p. 5) process, the collaborative efforts of researchers, faculty and administrators distilled five decades of research on undergraduate education into seven guiding principles which describe effective practice rather than prescribe specific behaviors and personality traits.

The seven principles assert that good practice in undergraduate education:

(1) encourages student-faculty contact, in and out of class, as the most important factor in student motivation and involvement;

(2) encourages cooperation among students, which often increases involvement in learning and can improve thinking and deepen understanding;

(3) encourages active learning, to help students make what they are learning a part of themselves;

(4) gives prompt feedback, so that students can reflect on what they know and don't know and focus their learning efforts;

(5) emphasizes time on task, to ensure basic mastery of content;

(6) communicates high expectations, as students tend to live up to what is expected of them; and

(7) respects diverse talents and ways of learning, recognizing that learning begins with areas of strength and can then be expanded to include less comfortable modes of learning.

The sum of research on learning in the college classroom, past and on-going, supports the efficacy of the seven principles. The support is especially strong for the principles of encouraging faculty-student contact, gives prompt feedback and encourages active learning (Sorcinelli, 1991). The formulation of principles, rather than prescriptive behaviors, also leaves room for a variability of implementation strategies across disciplines, students, teachers and institutions.

There is much which is useful and thoughtful in the process-product literature, but there is also a growing sense that the identification of methods and behaviors is a necessary but not sufficient condition for understanding and improving teaching. The seven principles for good undergraduate practice are a practical bridge to the emerging views.

B. Emerging Views: Challenging the Process-Product Tradition

This sense is part of a growing number of challenges to the world view that was shaped primarily by the Western European positivist scientific tradition. This conceptual

framework assumes that there is an objective reality that can be neutrally observed, that theory is simply a man-made interpretation of given data, and that the world is made up of independent variables, subject to manipulation, which impact each other in a linearly causal, mechanical process, the results of which are predictable and objectively measurable (Carkhuff, 1986; Kuhn, 1970; Lincoln & Guba, 1985; Schön, 1987; Wirth, 1983). This is a technical-rationalist reality, where all components are simply more or less complex machines subject to mechanical manipulation. To date, this model has been the primary influence on educational research and practice, as well as in other areas of social inquiry.

While still useful and powerful, this view of reality lost its claim to dominance in the physical sciences during the early part of the twentieth century with the advent of relativity theory and quantum mechanics (Kuhn, 1970). And there is an increasing body of evidence which challenges the still dominant influence of the positivist paradigm in other natural and social sciences, including education.

For example, productivity efforts in business settings are failing to respond as expected to the mechanical, behavioristic principles of scientific management (Carkhuff, 1986, 1988; Peters & Waterman, 1984; Wirth, 1983). Global economics are not as simple as the accepted Western economic models would lead one to believe (Hamilton, 1990). Cognitive and developmental psychology

are questioning the dominant mechanistic, linear view of thinking, behavior and development (Baxter Magolda, 1992; Belenky, Clinchy, Goldberger, & Tarule, 1986; Carkhuff, 1983; Gardner, 1983, 1985; Gilligan, 1982; Kitchener, 1983a, 1983b). Organizational behavior theory is moving away from understanding the organization as a predictable hierarchical entity to an increasing recognition of the heterarchical nature of intra-organizational relationships (Lincoln & Guba, 1985). The natural sciences have uncovered a complexity apparently governed by unpredictable laws of chaos (Cambel, 1993; Gleick, 1987).

Higher education, as a community dedicated to research, teaching and learning within the larger social context, has operated under the dominant paradigm. Learning theory has been dominated by behaviorist theory and methods and by developmental theories derived from studies of men socialized into the dominant paradigm (Carkhuff, 1986; Gilligan, 1982). The study of teaching has been conducted primarily under the process-product research program, which relies heavily upon positivist, reductionist assumptions in studying the teaching-learning connection (Shulman, 1986). With its emphasis on allowing only observable, behavioral data as evidence, this approach is not equipped to deal with the internal phenomenological variables which the emergent paradigm views as critical.

In spite of the dominance of the positivist paradigm, there have always been alternative voices in the

educational literature, voices which are speak to the centrality of the person. Very early in the 20th century, Dewey and progressive education and Piaget and constructivism insisted on making room for individual experience. More recently, the voices can be heard in the claims that the teacher is as much an artist (Axelrod, 1973; Eisner, 1994) as a scientist, technologist or craftsperson. There is the humanistic or affective education movement that emerged in the 1970s as a response to the perceived over-technicalization of education. A growing body of literature is investigating the implications of student gender, ethnic background, sexual orientation and learning style for teaching effectiveness. There is the emergence of critical theory and feminist pedagogies that directly challenge the adequacy of the process-product paradigm for understanding teaching and learning. And there is the growing interest in the idea of the reflective practitioner (Schön, 1983, 1987) as a process of legitimizing the personal, tacit knowledge which a person brings to the practice of teaching.

To say that teaching is an art, and that teachers are artists, is to admit the importance of the individuals involved in the process without denying the importance of the proven tools of the craft. Eisner (1994) identifies four senses in which teaching can be regarded as an art: it can be performed with such skill and grace that the experience can be justifiably characterized as aesthetic;

the teacher makes judgments based largely on qualities that unfold during the course of action; the teacher's activity is not dominated by prescriptions but is influenced by qualities and contingencies that are unpredicted; and the ends that are achieved are often, at least in part, created in process. There are thus parts of teaching which are not able to be captured by a process-product science of teaching. This argument reflects the influence of Dewey and, as will be seen, is expanded upon by Schön.

Axelrod (1973), in an exploration of the conceptions of the teaching role that faculty construct for themselves, identified the teacher as artist as the role most likely to create new learning and least vulnerable to the influence of technology. When acting from this role conception, teachers see themselves as involved in a process of joint inquiry and discovery with students, the products of which are evanescent and improvisational. The teacher-student relationship is crucial to the creation of the learning product. And, however the teaching role is conceptualized, Axelrod says that the teacher's understanding of their role is of the utmost importance. It is impossible to understand why a teacher acts or to judge how well if the teacher's conception of their role is not known.

Humanistic, or affective, education emerged from the 1960s in response to concerns about the perceived dehumanizing of society in all realms: economic, political, social and educational (Brown, 1971). It

represents an effort to put the human being, as a thinking and feeling individual, at the center of efforts to actualize human potential. It emphasizes the important contribution of the learner's feelings and experience to the process of mastering and making meaning of the intellectual tasks that are the traditional province of education.

The goal of affective education is the integration of the affective and cognitive elements in individual and group learning (Brown, 1971). This involves developing learner self-awareness, creating learning climates that recognize and are responsive to the learner's needs and perceptions and developing quality interpersonal relationships in learning. Major strategies for achieving these goals include increasing the level of experiential learning activities which are aimed explicitly at both the emotional and the cognitive dimensions of the learning experience (Brown, 1971; Thayer, 1976), and systematically elevating the teacher's level of interpersonal skills so that they can attend effectively to feelings in the classroom (Aspy, 1972, 1986).

Following in the spirit of humanistic education, some more recent proposals for understanding and improving teaching focus on redefining the relationship between teacher and student (equals in joint search of truths that matter, rather than the authority instructing the subject) and between person and content (not all knowledge is

available for objective knowing)(Ayers, 1986; Palmer, 1983, 1993). Teaching means building relationships, empathically and ethically, between all the components in the teaching and learning process. Teaching means "being drawn into personal responsiveness and accountability to each other and the world of which we are a part" (Palmer, 1983, p. 14).

The systems for teaching which are extensions of human technology models of human processing are intended to facilitate the building of this type of relationship, out of which emerges new learning about the content, the self and the world, for both teacher and student (Berenson, 1973; Berenson & Anderson, 1989; Carkhuff, 1986, 1988). The underlying process which provides the guidelines for designing and delivering teaching interventions focuses on the development of the teacher's and the learners' relationship with the content and each other, through three phases. Learning begins with the teacher empathically responding to the learners to facilitate joint exploration of the content and the learners' experience of it. The teacher helps to synthesize a personalized integration of the content and the learners' experience that has meaningful learning goals, which can then be acted upon by the learners with the active relating and coaching of the teacher.

Underneath this process is the assumption that, in the relationship, the teacher and learner will generate new

understanding of the content and of their world. In short, teaching is viewed as a creative, thinking, personal process that should empower the participants to constructively impact their worlds (Berenson & Anderson, 1989).

In the pedagogical literature there is increasing attention to the possible mismatches of dominant teaching methodologies and minority student populations (Anderson & Adams, 1992; Culley & Portuges, 1985; Moore, 1990), as well as to the existence of divergent learning styles within the traditional student population (Armstrong, 1989; Gardner, 1983; Smith & Kolb, 1982). These theorists maintain that it is important for teachers to understand that there are other frames of reference for learning that are as valid as the dominant emphasis on linear verbal-logical reasoning abilities. They look to expand teachers' assumptions about valid ways of knowing and learning.

When teachers begin to understand that learners may acquire knowledge in different ways (kinesthetically rather than verbally, interpersonally rather than individually), they must begin to take into consideration who each learner is, in order to approach the content from the learner's strengths. This requires an expansion of teaching methods and the ability to adapt those methods as the norm, not the exception. This requires admitting the personally experienced concrete as a legitimate form of knowing that

may be enhanced or informed by the abstract theoretical, not just the other way around.

This requires teachers to develop the ability to construct relationships between various forms of knowledge and learners. And it implies that expanding students' access to a variety of ways of knowing is a goal of teaching. This all represents a challenge to the traditional, still prevalent, modes of teaching, such as lectures.

Critical theorists in education have always denied the existence of objective, neutral content and teaching methodology. Their contention that knowledge is a social construction embodying particular interests and assumptions leads to the definition of teaching as the process of uncovering those dynamics and assumptions, of making problematic the relationship between facts, theory and values in order to create new, more equitable constructions of reality (Apple, 1988; Giroux, 1988; McLaren, 1989).

The methods they advocate to improve teaching are very clearly rooted in their perspective on knowledge and the world (Culley & Portuges, 1985; Shor, 1987), beginning with the teacher's affirmation of the learners' experience and subjective knowledge as legitimate sources for inquiry. This requires teachers who can build relationships which are inclusive of the experience of all the voices in the teaching/learning dialogue and who empower students to be active participants in learning and life by teaching them

how to raise questions and construct answers for themselves in any content area.

It is noteworthy that the critical perspective on education is edging into mainstream thinking, especially in efforts to develop reflective practitioners of teaching (Ayers, 1986; Baskett & Marsick, 1992; Cornwell, 1991; Sparks-Langer & Colton, 1991; Sparks-Langer, Simmons, Pasch, Colton, & Starko, 1990). For example, as Cornwell (1991) explores the implications of his move from an epistemology of truth as objective reality to an epistemology of truth as a social construction, he advocates the necessity for teachers to question the purposes served by a particular curriculum. Teachers will need to learn to approach their own curriculum and teaching critically, and to engage students in exploration of the "connections and disconnections between the ideas encountered and their own experiences for meaningful education to take place" (p. 35). Meaningful education, in Cornwell's view, occurs when students are equipped to make sense out of and, if necessary, redefine themselves and their world.

In a collaborative project between a state university School of Education and the local public schools designed to promote reflective pedagogical thinking in student and practicing teachers, Sparks-Langer, et al. (1990) developed a descriptive framework for measuring reflective thinking. The most complex and adequate levels include not only the

ability to reflect upon the use of technical means to achieve a given teaching goal, but also the ability to reflect upon the appropriateness of the goals and related moral and ethical issues of social compassion and justice embedded in the curriculum and teaching goals. This inclusion of critical reflection makes personal knowledge and social relationships a legitimate concern of effective teaching.

Whether tied to critical theory or not, reflective practice and educating reflective practitioners is another direct challenge to the assumption that it is possible to identify generic objective principles which can be mechanically applied to solve most, if not all, problems of practice (Schön, 1987). Reflective practice focuses on the areas of practice which do not easily lend themselves to technical-rational solution.

It hinges upon the ability of the teacher/practitioner to engage in reflection-in-action, a type of conversation held with the materials of the situation (the self, the students, the content and the context), to actively frame the problem so as to be able to search for a solution and to make his/her tacit knowledge (implicit knowledge gained through experience) explicit and part of the conversation. This requires that educators, practitioners and researchers recognize experientially known, non-quantifiable tacit knowledge as a legitimate source of content and inquiry.

The goal is to enable practitioners to develop and draw upon their tacit knowledge to construct new responses and thus new knowledge, which is in turn a resource for effectively handling future problems. Efforts to educate reflective practitioners are occurring in a variety of fields (Baskett & Marsick, 1992; Schön, 1987), including medicine, management, architecture, psychotherapy, organizational development and education. The methods employed to teach reflective practice, from journal writing to modeling, coaching and cognitive apprenticeship, all emphasize the development of relationships between the learner, the content and the teacher and the analysis of personal experience to construct personally meaningful and useful learning.

Classroom research (Angelo, 1991) is gaining a following as a means for thinking about and improving teaching in college classrooms. Although sharing in the dominant paradigm's methodology (gather data about effectiveness of teaching as measured by some variable, analyze the reasons for the results and adjust methods accordingly), classroom research is not just a how-to teach better method. It is a process which emphasizes the teachers' systematic and reflective elicitation of feedback on their own teaching, content and learners in order to construct personalized responses to the problems encountered in their own teaching. Chism (1993) sees it as

an integral step of the process of the development of teaching expertise by faculty.

As a system, not just a method, for individuals to address their own learning about teaching, it encourages teachers to view teaching as a personal process of relating to the students and the content. It encourages teachers to reflect upon their practices of teaching and to continually expand their repertoire of teaching responses. It does not assume that the dynamics between the teacher and the next semester's group of students will be the same as last semester's dynamics. The classroom research approach to improving teaching begins to move beyond one implication of traditional positivist thinking, the implication that the experts can or will identify the best response for a given situation. Classroom research begins to recognize that the solution to problems of teaching lies within the individual teacher, his/her constructions of the situation and his/her relationship with the learners.

Consistent with the emergence of a different world paradigm, these influences have begun to better articulate a voice, to begin to define language and methods that can be accepted as legitimate ways of approaching the multiple perspectives that are a foundational aspect of the new paradigm. Shulman (1986) argues that teaching will never be adequately understood from the perspective of one paradigm alone, that the emergence of more complex research

programs that are concerned with a wide range influences on teaching is healthy.

One distinct thread has been an increase of attention being given to the perspectives of the people principally and directly engaged in classroom interaction - that is teacher and students (Solas, 1992), with an emphasis on understanding teaching as "comprehension and reasoning, as transformation and reflection," an emphasis "justified by the resoluteness with which research and policy have so blatantly ignored those aspects of teaching in the past" (Shulman, 1987, p. 13).

C. The Study of Teacher Thinking

While these innovations in pedagogical practice and theory were gaining momentum, there was a parallel growth in the number of researchers interested in the psychological context of teaching, as seen in the content and process of teacher thinking. Stimulated by Philip Jackson's 1968 book, Life in Classrooms, which focused on describing and understanding the mental constructs and processes beneath teacher behavior, and identified as important by the 1974 National Institute of Education conference, which dedicated a panel to teaching as clinical information processing, research on teacher thinking is now a major line of inquiry at the elementary and secondary levels (Mitchell & Marland, 1989).

Whereas earlier research on teaching had emphasized teacher or student personal characteristics, assuming that certain characteristics would translate into good teaching and learning, or teacher and student behaviors, assuming that effective teaching and learning can be determined by what the teacher or learner does, the alternative strategy of exploring what meaning teachers or students attach to the behaviors and characteristics opens a new perspective. This perspective assumes that "teacher behaviors are guided by and make sense in relation to a personally held system of beliefs, values and principles" (Solas, 1992, p. 208).

The goals of research on teacher thinking are to describe the mental life of teachers, to understand and explain how and why their behaviors take the forms and functions they do and to portray the cognitive psychology of teaching (Clark & Peterson, 1986). In their review of the literature on teachers' thought processes in the Handbook of Research on Teaching, third edition (Wittrock, 1986), the first time the topic required its own literature review, Clark and Peterson propose organizing the literature on teaching into three interdependently related categories: teacher action and observable effects, teacher thought processes, and constraints and opportunities.

They further organize research on teachers' thought processes into three subcategories, also interdependently related: teacher planning (pre- and post-active thoughts), teacher interactive thoughts and decisions, and teacher

theories and beliefs. The products of the research efforts can be classified as (1) descriptions of the content of teacher thoughts and sometimes cognitive processes, and models for ways teachers think, primarily parallelling information processing and decision making models, and (2) identification of the domains of teacher knowledge, the diverse kinds of knowledge teachers draw upon when teaching (Mitchell & Marland, 1989).

Most of the research on teacher planning has been done at the elementary level. Teachers have been asked to think aloud" while engaging in the process of planning their curriculum for the year, the unit and the individual lesson. It has been found that the linear planning models, such as those taught in teacher education programs which emphasize beginning with objectives and progressing to organizing activities and content and designing specific evaluation procedures, are inadequate for describing what teachers actually do (Clark & Peterson, 1986). Teachers tend to start with the context, explore the relationship of the students to the content, then formulate the terms and solutions for the specific teaching situations. Formal lesson planning plays a very modest role for experienced teachers, who are more likely to create images of how the lesson should go, which then move to the background to provide a framework within which the teacher is free to process the immediate input (Clark & Peterson, 1986; Mitchell & Marland, 1989; Taylor, 1987).

There is a large body of research on teachers' interactive thoughts. Clark and Peterson (1986) report that the content of teacher thinking during teaching is primarily focused on the students, then on the teaching process and strategies. The process of teachers' interactive thinking can be summarized as one of perceiving, interpreting, anticipating and reflecting. Attempts to describe teacher thinking during teaching have been dominated by existing information processing and decision making models, where decision making is defined as "the teacher's deliberate choice to implement a specification" (p. 274). Within this framework, teachers are active decision makers, making approximately one interactive decision every two minutes. However, traditional decision making models have been found to be inadequate for describing how teachers perceive the antecedents for decision making and the complexity of sorting through and weighing the various cues.

Models derived from studies of information processing may have more promise for understanding teachers' interactive thinking (Clark & Peterson, 1986; Mitchell & Marland, 1989). These models hypothesize such mechanisms as the chunking of information, making it possible to process more cues more rapidly, and the development of mental schemata that teachers use to organize data, differentiate the place and relative importance of data and to guide the performance of routine aspects of teaching,

leaving the teacher free to capture more of the immediate cues in the classroom. It has been found that experienced teachers have more complete and more complex mental images about teaching than do inexperienced teachers, and the existence of such structures provides room for the individual teacher's structuring of experience, including the purposes and beliefs the teacher brings to bear upon the decision making process (Mitchell & Marland, 1989).

Teachers' theories and beliefs involve the propositional experiential knowledge and constructed meanings that teachers bring to the classroom. The goal is to make explicit and visible the frames of reference through which individual teachers perceive and process information. In 1986, Clark and Peterson found few studies which directly addressed this process (a total of nine). In this newly developing area of research, studies may focus on teachers' personal theories about teaching and principles for practice, the values identified by teachers as guiding their practice, conceptions of what teaching is about, teachers' orientations to teaching and teacher epistemology. These terms frequently appear to be used interchangeably.

Taylor (1987) defines implicit theories as "attempts of those caught up in the enterprise and acts of teaching to confer meaning on their experience and their efforts" (p. 482). Implicit theories are used by individuals to order the world, and reflect beliefs about the purposes of

the enterprise of teaching, about the acts of teaching, about the constraints and influences on teaching, and about themselves and learning. Teaching effectiveness is at least in part a result of the practical effectiveness of the implicit, personal theories that teachers use to conceptualize their practice (Ross, Cornett, & McCutcheon, 1992).

Dunkin and Precians (1992) conducted a study of the conceptual repertoires that teaching award winning University faculty and relatively inexperienced University faculty used to define their roles as teachers and as the basis for evaluating their effectiveness as teachers. They found that the award winning faculty conceptualized their roles as having both more and more complex dimensions that did inexperienced teachers. The award winners were more flexible in their practice and used a wider range of criteria for evaluating their effectiveness as teachers, including personal intuition and values and a heavier solicitation and use of student feedback. Further, this study implies a link between the ways in which teachers understand what it is that they're doing and teaching effectiveness.

Kember and Gow (1994) examined the relationship between orientations to teaching, which reflect faculty beliefs about the purpose of education and the teacher's relationship to students and content, and the quality of student learning. Two orientations to learning were

identified: surface learning which looks to memorize and reproduce facts or acquire procedures and deep learning, which seeks to understand the underlying meanings and relationships of content. There were also two orientations to teaching identified: knowledge transmission, focused on knowledge of the subject and on imparting that knowledge to the student and preparing the student for a job, and learning facilitation, incorporating interactive teaching, facilitative teaching, pastoral interest in students and motivating students. They found a correlation between teacher orientation and student learning quality, such that the learning facilitation orientation was positively correlated with deep learning and negatively correlated with surface learning, and vice versa for the knowledge transmission orientation. They conclude that if it is desired that the students adopt meaningful approaches to learning, it is necessary to attend to the lecturer's conception of teaching.

Some researchers have focused on teacher beliefs about the sources of knowledge and the validity of various truth claims, or teacher epistemologies, as the basis for the development of the teacher's implicit theories (Young, 1987). Teacher epistemology would be seen in the processes of selecting and justifying content for the curriculum, the process of managing the delivery and in the process of assessing learning.

The concern with the underlying role of epistemology in practice is seen in Schön's (1983, 1987) contrast between the positivist and the constructivist (or reflective) stance towards professional problem solving. A similar contrast is seen in some research on the process of educational reform. Tobin and Jakubowski (1992) identify a shift in teacher epistemology from realist to constructivist, reflected in the teachers' role conceptualization and beliefs about teaching, as being an important factor in implementing changes that improved performance in elementary mathematics and science teaching. Prawat (1992) also identifies teacher epistemology, expressed in such beliefs as the independence of the fixed entities of learners and content and the curriculum as a fixed agenda rather than a dynamic matrix of ideas, as being a major obstacle for the implementation of educational reforms rooted in a constructivist epistemology.

In an attempt to integrate the sources of knowledge for teaching (knowledge of subject matter, pedagogical content knowledge, knowledge of other content, of curriculum, of the learners, of educational aims and general pedagogical knowledge), Shulman (1987) offers a model for the on-going development of pedagogical reasoning and action. He favors this type of model for the knowledge base of teaching because it "places emphasis upon the

intellectual basis for teaching performance rather than on behavior alone" (p. 20).

The model proposes a cyclical process of teacher comprehension (of purposes and content), transformation (preparation for teaching, representation of content in terms learners can use, selection of methods and adaptation and tailoring of content to student characteristics), instruction, evaluation (checking for student understanding during and after instruction and evaluating own performance), reflection (on own and class performance and its meaning) and new comprehensions, which provide the base for the next cycle. Such a model integrates the relationship between behavior and thinking, and has implications for guiding the development of teachers' practice.

Clark and Peterson's (1986) conclusions to their review of the developing literature on teachers' thought processes are still relevant here. They concluded that the research shows that thinking plays an important part in teaching, and that the image of the teacher as a reflective professional is not far-fetched. They saw no attention in the research to the ways in which thinking, planning, beliefs and theories develop over time, though it implies that a developmental process begins during undergraduate education and grows and changes with professional experience. And they saw in the study of teacher thinking a potential source of hypotheses about and explanations of

some of the puzzling and contradictory findings of the process-product research on teaching.

Some of the answers to the question of how thinking, theories and beliefs develop over time may be found in the next body of literature to be reviewed, that of social-cognitive development theory.

D. Social-Cognitive Development Theory: An Overlooked Factor in Understanding Teaching

Social-cognitive development deals with understanding the individual's social/interpersonal and intellectual construction of and orientation to the world. The psychology of social-cognitive development began with Piaget's theory of genetic epistemology, the idea that a person passes through developmental stages which have characteristic ways of relating to and constructing the social-cognitive world that the person perceives as reality (Kegan, 1982). The same set of events does not mean the same thing to different people, as a function not only of the individuals' past experience and expectations, but also as a function of their developmental abilities to make meaning out of experience. Indeed, movement from one stage of meaning making to another is akin to a paradigm shift for the individual--it is the same world, yet it is not. The central role given to the individual as the constructor of experience is very different from the view of the person as an object acted upon by external events which is characteristic of much of positivist social science.

Investigation in this field of developmental psychology has expanded rapidly since the 1960's, as Piaget's basic assumptions and frameworks have been used to understand human development in a range of activities. Kohlberg's (1969) studies of moral development, Perry's (1970) schema for intellectual development, Kegan's (1982) stage theory of personal/interpersonal development and Kitchener and King's (1990, 1994) stages of reflective judgment are a few examples of research which use developing levels of epistemic assumptions to explain changes in the reasoning abilities of humans.

The importance of such work seems greater with the emergence of a new paradigm, for within each developmental schema the movement is from the construction of a simple world with easily defined externally determined rights and wrongs to the construction of a world that is complex and multi-perspectival. The implication of these stage theories is that the more complex stages, those less likely to be achieved without some form of higher education, are more adequate for living in and making sense of the complexities of real life. Indeed, Kohlberg and Mayer (1972) argue that development is <u>the</u> aim of education, and that the potential contribution to cognitive, social, epistemological and moral development should be the criteria upon which the choice of educational goals and practices is based. This section will highlight a few of these developmental theories which seem to have the most

relevance for understanding learning and teaching performance.

William G. Perry, Jr.'s (1970) schema for intellectual development outlines the evolution of the individual's epistemological beliefs, or beliefs about what constitutes knowledge, truth, fact and the source of authority for defining and conveying knowledge. Perry identified nine epistemological positions, which may be grouped into four major stages of epistemological development. The progression is "from concrete and simplistic to abstract and complex thought processes; from absolute to relativistic belief systems, and from external to internal control, as the student increasingly reflects upon and takes responsibility for actions, choices, and the selection/formulation of a world view" (Kurfiss, 1988, p. 175).

Perry's four major stages are:

Dualism, which is characterized by the belief that knowledge is absolute. There is always a clearly right answer, and that answer comes from and is conveyed by Authorities;

Multiplicity, which assumes that knowledge is absolute, but that there are grey areas in which the answers are not yet known. Thus authorities are not infallible and, in some areas at least, one opinion is as good as another;

Relativism, in which the student has learned methods for approaching the grey areas of knowledge, has come to realize that grey areas are the rule rather than the exception and that, despite the fact that good arguments can be presented for differing viewpoints, it will be necessary to choose one; and

Commitment in Relativism, which involves the choice of viewpoints based on rational processes, while recognizing the potential fallibility of those choices, accepting the responsibility for consequences and acknowledging the right of others to their choices.

Perry's work has stimulated a body of further research into the epistemological dimensions of student development. This work has both confirmed the relevance of his original schema and refined and expanded the original definitions of each stage.

Most notable is the work of feminist oriented researchers, who have challenged the descriptions, based upon studies of overwhelmingly male populations, of developmental stages of knowing and relating to the world (Belenky, Clinchy, Goldberger, & Tarule, 1986; Gilligan, 1982). Taking exception to the conclusion that women most frequently failed to reach the highest developmental levels of thinking and knowing, as measured by performance on problems and scales developed by Kohlberg (1969) and Perry (1970), they mapped out a qualitatively different set of epistemological positions characteristic of women.

While their schema share many qualities similar to those of the male developmental sequence, the emphasis on seeking connection between the self and knowledge, on looking for relationships and on claiming the priority of context over objective logic frequently seen in women's perspectives are now recognized as legitimate strategies for knowing the world and resolving dilemmas, for both genders (Baxter Magolda, 1992; Belenky, et al., 1986; Gilligan, 1982). The insights contributed by these researchers have further reinforced the idea that the individual learner's and/or teacher's construction of the experience is critical in thinking and learning.

Gilligan's (1982) pioneering work on moral development in women identified a conception of identity and morality that differed from that identified by Kohlberg (1969) in studies of men. When women constituted the subjects of the research, what emerged was an orientation towards relationship, responsibility and care as the moral equivalent of an orientation towards rights as determined by universal abstract rules, an emphasis on connectedness rather than separateness. Following her lead, Belenky, Clinchy, Goldberger, and Tarule (1986) used Perry's (1970) schema of epistemological development in men as the starting point for an investigation of epistemological development in women.

Belenky et al. (1986) identified five epistemological perspectives from which women view the world, four of which

share similarities with Perry's (1970) major stages. A major difference between Perry's men and the women in Belenky et al.'s sample was the importance of voice, relationship and context that emerged from the women's stories. The five positions heard in women's development are:

Silence, "a position in which women experience themselves as mindless and voiceless and subject to the whims of external authority" (p. 15). From this position, the world is a random place, where people and events are experienced as disconnected. Perry found no such equivalent in his sample, which did not include the individuals from disadvantaged environments who were part of the Belenky et al. study.

Received knowledge, "a perspective from which women conceive of themselves as capable of receiving, even reproducing, knowledge from the all-knowing external authorities but not capable of creating knowledge on their own" (p. 15). This position is similar to Perry's Dualism, for assume a clear dichotomy of right versus wrong answers handed down from authorities in a world characterized by either/or choices. But the women were much less likely to identify with the "authority" than were the men, preferring to just listen.

Subjective knowledge, "a perspective from which truth and knowledge are conceived of as personal, private, and subjectively known or intuited" (p. 15). There are still

right answers, but the source of authority resides in the person rather than in external authorities. Perry's stage of multiplicity is similar in its emphasis on personal truth, the assertion that everyone has the right to their own opinion and that one opinion is as good as the next. The women, though, were likely to emphasize the importance of their feeling reaction to experience in determining what is right. They focused inwards rather than defining and declaring themselves against the external diversity of opinion.

Procedural knowledge, "a position in which women are invested in learning and applying objective procedures for obtaining and communicating knowledge" (p. 15). Similar to the Relativism position in Perry's schema, it is discovered that some opinions may be better than others and that what is important is to be able to support an opinion based on systematic analyses that can be communicated to others. This position involves being able to look at knowledge from a variety of perspectives and, for women, appears to involve two different orientations. One is termed separate knowing, where the orientation is towards impersonal rules and justification of a viewpoint, like Perry's men. The other is termed connected knowing, characterized by empathy, where the orientation is towards relationship, towards understanding the other in its own terms in order to make a connection with a viewpoint.

Constructed knowledge, "a position in which women view all knowledge as contextual, experience themselves as creators of knowledge, and value both subjective and objective strategies for knowing" (p. 15), integrates into one voice the procedural (external knowledge received from others) thinking and the subjective (intuitive) feeling. It is from this position, like Perry's commitment in relativism, that one is able to choose a position that reflects both values and knowledge to define a direction for oneself. For the women, this comes from a "capacity for speaking with and listening to others while simultaneously speaking with and listening to the self" (p. 145), a relationship and responsibility orientation to the process of constructing knowledge that serves as the basis for personal action.

The work of Baxter Magolda (1992) sought to systematically examine the differences and similarities between women's and men's development, using Perry (1970), Gilligan (1982) and Belenky et al. (1986) as referents. Her discovery that the previous labels did not fully capture the meanings expressed by the students in her longitudinal study of student epistemological development led to the identification of four perspectives, or ways of knowing. These perspectives are similar to, but not identical to, previous descriptions, and include within each perspective a description of two patterns of reasoning, one reflecting a more connected orientation and

the other a more separate orientation. She identifies it as a model of epistemological reflection.

Stage I is absolute knowing, where the assumption is that knowledge is certain, is the domain of the teacher whose job it is to communicate it to students in an understandable form. The students' job is to obtain knowledge and demonstrate that it was adequately acquired. The two patterns of reasoning in Stage I are receiving, which is a more private approach relying on listening and recording with very little interaction, and mastery, which relies on active engagement and discussion with the authorities who hold the knowledge.

Stage II is transitional knowing, which assumes that knowledge is partially certain and partially uncertain, that the learner's job is to understand rather than just acquire the knowledge and that the teacher should use methods that aim for understanding and application of the content. The two patterns of reasoning in Stage II are interpersonal, which values hearing a diversity of views from many sources, seeks understanding from instructors to facilitate self expression and resolves uncertainty by personal judgment, and impersonal, which prefers challenges which force thinking, debates with peers and instructors and resolves uncertainty by logic and research.

Stage III is independent knowing. Knowledge is uncertain, everyone has their own beliefs. The role of the learner is to think for themselves and share their views

with others and the job of the teacher is to promote exploration and independent thinking and the exchange of ideas. The two patterns of reasoning in Stage III are interindividual, characterized by a dual focus on both thinking for oneself and engaging in understanding others' views, which may modify the original opinion, and individual, which values the interchange of ideas primarily for the impact on developing the individual's independent thinking.

Stage IV is <u>contextual knowing</u>. Knowledge is uncertain, but believability can be judged on the basis of evidence within the context. The learner's role is to think through problems, individually and collaboratively, and to integrates and apply knowledge. The teacher-student relationship is seen as a two way interaction, where the teacher provides direction for the evaluation and application of perspectives but is also open to learning from students. At this stage, different patterns of reasoning were not identified.

The Baxter Magolda study provides an integrative approach to understanding similarities and differences in epistemological development in men and women. Her findings emphasize more strongly the often over-looked statements in earlier studies--that patterns of reasoning are gender-<u>related</u>, not gender dictated, and that there is a greater fluidity of boundaries between the patterns than was previously seen. The same individual may display both

patterns over time, within a stage or from one stage to another, independent of gender.

A related line of research is being carried out by people interested in the development of critical thinking and reflective judgment. Rather than viewing critical thinking as simply the application of principles of logic, researchers are exploring the idea that critical, reflective thinking begins with a personal formulation of the nature of the problem, which is solved according to the individual's assumptions about the nature of reality and knowledge and conceptions of justification (Kitchener, 1983a, 1983b; Kitchener & King, 1990, 1994). While cognitive psychology has conceptualized thinking as consisting of cognition (basic process tasks of perception, memory, etc.) and, perhaps, metacognition (strategies for monitoring cognition) (Daehler & Bukatko, 1985), Kitchener (1983a) has proposed an additional process.

This process, termed epistemic cognition, is proposed to be necessary for true critical thinking. Epistemic cognition is the process of monitoring the epistemic nature of the problem and the truth values of alternatives, of determining what is acceptable evidence in the complexity of real life, which guides the choice of metacognitive strategies. Again, the individual's construction of the experience is central to understanding problem solving and thinking. Kitchener and King's (1990, 1994) model for reflective judgment describes the development of epistemic

cognition, focusing explicitly on how people reason about ill-structured problems.

The Reflective Judgment Model identifies seven distinct sets of assumptions about knowledge, its acquisition and what constitutes legitimate justification for a belief. The stages can be grouped into three clusters. Each successive stage provides more inclusive and better integrated assumptions for evaluating and defending a point of view and allows more complex and complete data to be integrated into problem solutions. These are critical factors when working with the uncertainty of ill-structured, real life problem solving. The clusters and stages of the model are:

Pre-Reflective Thinking, stages 1, 2 and 3, where the assumption is that "knowledge is gained either by direct, personal observation or through the word of an authority figure" and that "knowledge thus gained is absolutely correct and certain" (p. 16). Because there are no grey areas, all problems are assumed to be defined with high degrees of certainty and completeness. Stage 1 encompasses "I know what I have seen," Stage 2 acknowledges authority figures as well and Stage 3 admits to some areas of temporary uncertainty where personal beliefs will have to do until knowledge is discovered.

Quasi-Reflective Thinking, stages 4 and 5, understands that there may be some areas of permanent uncertainty, but experiences difficulty in understanding how to make

judgments in light of this uncertainty. Stage 4 sees that knowing always involves an element of ambiguity and that beliefs must be justified by choosing evidence, but the choice of evidence is seen as idiosyncratic. Stage 5 accepts that knowledge is contextual and subjective, since it is filtered through a person' perceptions, and believes that choices can be justified only within the rules of a particular context, thus other interpretations may be equally valid.

Reflective Thinking, stages 6 and 7, "reflect the epistemic assumption that one's understanding of the world is not given but must be actively constructed and that knowledge must be understood in relationship to the context in which it was generated" (p. 17), and that some interpretations may be judged as more plausible than others. Stage 6 seeks to evaluate evidence across contexts and forms beliefs by comparing evidence and opinion from different perspectives and evaluating solutions by criteria such as the weight of the evidence and the utility of the solution. Stage 7 sees knowledge as the outcome of a process of inquiry, to be evaluated in terms of what is most reasonable or probable according to the current evidence, to be re-evaluated when new evidence appears.

Kitchener and King (1994) also examined the relationship between reflective judgment and the development of logical reasoning skills, which are frequently identified as the necessary skills for critical

thinking and are the goal of cognitive development in Piaget's formal operations stage. They concluded that, while related, reflective judgment and logical reasoning skills represent two different domains of intellectual development. The development of more inclusive and complex epistemic assumptions are necessary for the application of logical reasoning skills to ill-structured problems.

While Kitchener and King do not extensively address the potential relationship between reflective judgment and the epistemological developmental schema of Perry, Belenky et al. and Baxter Magolda, they do consider the work of Kohlberg and Gilligan in the arena of moral development. Kitchener and King state that there appears to be "a structural similarity in the development of people's conceptions of moral rights and responsibility and conceptions of knowledge and justification" (p. 206).

One other model for development may also have relevance for understanding teaching performance. Carkhuff (1983, 1984, 1986) extensively studied the motivational orientations and thinking processes of exemplary performers in a variety of fields. He found significant qualitative differences in both motivational orientation and thinking processes when exemplary performers were compared to ordinary and non-productive personnel.

Motivation, or what the individual defines as their primary source of reinforcement, is an indicator of the way in which the individual has defined their relationship to

the world. It is described as shifting from an external, dependent incentive orientation in the least productive personnel to a more complex, interdependent mission orientation in the most productive. The type of thinking processes employed also moves from an externally determined conditioning process to an actively interdependent engagement with all dimensions of a given experience. Similar to the other developmental schema reviewed here, Carkhuff describes five qualitatively different positions.

Level 1: Motivation is characterized as disincentive, with no reliable responses to the standard performance incentives and little tolerance for delayed reinforcement.

Thinking takes the form of a stimulus-response pattern, an essentially non-thinking and limited response to experience, which is given whenever the performer notices a set of specific, well-defined cues.

Level 2: Motivation is incentive oriented, performance is dependent upon the promise of and presence of appropriate external reinforcements.

Thinking is still a stimulus-response process, assuming a proper pre-determined response exists for most situations, and that changes in the environment will require the acquisition of a new response.

Levels 1 and 2 are both dependent upon external conditions for the quality of their performance and are ill-equipped for changing conditions in the environment. These positions assume that what is, will be, and have the

tendency to ignore data that doesn't fit within their limited conceptual framework.

Level 3: Motivation has become internalized enough to include the personal satisfaction of achievement of goals or tasks to externally set standards as a reinforcer and motivator.

Thinking is now more likely to involve a stimulus-organism-response process, where the obvious requirements of the stimulus experience are actively compared by the individual (organism) against the repertoire of responses possessed by the performer, who can then select the response that best fits the goal.

Level 4: Motivation is internalized and involves not only the satisfaction of task achievement, but the drive for self actualization as well. Standards for performance are set internally and involve both learning for self and exceeding the external standards for performance.

Thinking is a stimulus-organism-response process, with the goal of selecting the best response for the situation from the repertoire now likely to include the strategy of combining responses or seeking out new responses to add to the individual's response repertoire.

By internalizing the sources of motivation and by seeking to expand the number of responses and possible response combinations in their repertoire, Levels 3 and 4 are increasingly less dependent upon external conditions

for the quality of their performance and better equipped for changes in the environment.

Level 5: Motivation is defined by a focus on mission achievement, an interdependent orientation to the environment that involves both self actualization and the commitment to, in the process, actualize possibilities for others.

Thinking is likely to be a stimulus-process-response pattern, where the process involves full exploration of the stimulus experience (rather than taking surface requirements for granted), a responsively constructed understanding of goals that can elevate or change the functions or products and well defined action strategies, emphasizing feedback, for the achievement of goals.

At Level 5, the self is viewed in relationship to the environment and as a potential creator of the context and of change, rather than being dependent upon external conditions. Carkhuff's description of changes in motivational orientation and in the quality of thinking processes is consistent with the directions described in other developmental schema reviewed here. There is a move from concrete, externally oriented, non-complex assumptions about the individual's relationship to the world to more complex, abstract and interdependently defined relationships, where the individual is both shaped by and shapes the context. In particular, the implied relationship between motivation and the complexity of

assumptions about the kind of thinking required by the environment may be useful in understanding exemplary teaching performance.

While the developmental literature has been extensively applied to understanding students, and the implications of student developmental stage for the construction of educational experiences, it has not generally been applied to understanding the possible epistemic development of faculty as teachers. The dominantly favored empirical tests of teaching methods seldom consider facets of the psychological, developmental and cognitive processes of college instructors in relation to classroom experiences (McCord, 1985). The few exceptions to this include Nona Lyons (1994) and Norbert Ralph (1973, 1978).

Lyons (1994), in an article titled "Dilemmas of Knowing: Ethical and Epistemological Dimensions of Teachers' Work and Development," notes that teacher definition of knowledge and values are important dimensions of teaching, which are implicit in a teacher's sense of mission and goals for teaching. Drawing upon the research on student epistemological and cognitive development and its implications for teaching, she argues that the teacher's assessment of student epistemological perspective is only one part of an interdependent teaching relationship. The epistemological interactions at work in teaching involve not only the teacher's assessment of the

student as knower and learner, but also the teacher's stance towards the self as knower and the teacher's view of the nature of the subject matter knowledge within the interactions of learning. How the teacher understands these interdependent interactions has implications for what the teacher does, and ought to be investigated as part of the dynamics of teachers' professional development.

Along the same lines as Shulman (1987) in his consideration of the foundations of the new reform, Lyons concludes:

> Teachers' work cannot be conceptualized primarily in terms of subject matter knowledge or defined solely by content and pedagogical knowledge. Although subject matter knowledge in teaching history, English, or any other discipline clearly matters, as does a teacher's repertoire of pedagogical knowledge strategies, teachers' work ought to be seen as comprising several interacting epistemological tasks, coming together in an encounter with knowledge in particular contexts and with specific students. The teacher's assessment of how to present subject matter is mediated by his or her understanding of students as knowers and is informed by his or her own stance towards a discipline and knowledge as well as consideration of the self as knower. Research needs to continue to elaborate fully teachers' epistemological perspectives. (1994, p. 211)

Ralph (1973, 1978) proposes viewing faculty as developing adults, not just in the sense of developing a more secure adaptation to their professional roles, but in the sense of persons who are developing increasingly complex ways of thinking and acting within their roles as teachers. This involves understanding the underlying

epistemological and cognitive structures used by faculty to make sense of their environment and role.

Following the developmental schema laid out by Kohlberg (1969) and Perry (1970), Ralph analyzed the protocols of interviews with faculty members at a large state university, grouping them along a continuum according to the complexity of the assumptions that underlay the meaning they gave to their professional lives. The continuum:

> portrayed a progression from a position where faculty see knowledge as an unambiguous entity, and where teaching consists of simply presenting facts to students, to a position where they begin to see knowledge in more differentiated terms and recognize the need to use various strategies to help students gain understanding. Farther along the progression is a more problematic, even relativistic notion of knowledge, accompanied by a view of teaching as helping the student develop frameworks for ordering unrelated facts. The concept of professional role evolves from simple definitions of right and wrong actions, to an awareness of choice in roles and a sense of possible restrictions and limitations, and finally to a sense of style and tolerance within their choice of roles. In relations with others the progression goes from a view of people in moralistic terms of good and bad, to a more psychologically insightful notion of people that recognizes the origins of manipulation and inequality in human relations, and then to a sense of commitment in a context of tolerance and reciprocity. (1978, p. 61)

Ralph (1973, 1978) found that faculty could be grouped into five stages along this continuum and that these constructs were validated by a high degree (Pearson product moment correlation = 0.87, $p < 0.001$) of inter-rater reliability when rating a sample of 92 interviews with faculty from three other institutions.

Investigation of possible demographic differences in the distribution of stages (Freedman, Brown, Ralph, Shukraft, Bloom, & Sanford, 1979) revealed that the mean stage of development for faculty from the humanities and social sciences was significantly higher than that for faculty from the natural sciences and professional-applied programs (3.1 versus 2.7, significant at $p = 0.01$). Developmentally this may be the result of the interaction of personality traits that led the person into the field and the characteristics of the field, where the natural sciences, especially at the introductory level, tend towards a more dualistic right-wrong answer view of knowledge than do the humanities and social sciences. And while the connection between stage and teaching effectiveness were not addressed directly in this research program, the authors found similar research that did establish correlations between complexity of stage and effective teaching behavior.

These developments in how the process of knowing is conceptualized share some common themes. The world is recognized as an uncertain, nonstable, complex and interdependent place, continually in process. Phenomena operate as a function of mutual causality - they impact each other simultaneously, not linearly. The person is an active constructor of his/her world; knowledge is subject to personal perspective rather than being a representation of a neutral, objective fixed reality; and increasingly

complex assumptions about the nature of knowledge and knowing are the goal of development.

Knowledge emerges from an intimate relationship with the world, and learning is a dynamic process of relating. It is more than mastering "the facts and learning the reasons so we can manipulate life toward our ends. It means being drawn into personal responsiveness and accountability to each other and the world of which we are a part" (Palmer, 1983, p. 14). Overall, the newer views depict growing, expanding, inclusive personal systems of learning and knowledge, in contrast to the traditional narrowly focused, objective impersonal systems of learning and knowledge which have characterized the dominant positivist paradigm.

E. Conclusions

Themes in the recent research on social-cognitive development, learning and thinking about teaching converge with the characteristic themes of the emergent paradigm for understanding the world. They emphasize the recognition of a world which is complexly related and knowable through multiple perspectives, each of which may lead to different actions in the same context. The growing legitimacy of the constructivist paradigm makes it possible to explore questions which were not allowed under the process-product paradigm for research in education.

Perhaps the largest implication of these themes for education is that efforts to understand and improve teaching are not just about detailing characteristics and methods. The how-to's are necessary, but not sufficient to fix problems in teaching. Rather, efforts to understand and improve teaching are equally about exploring and expanding teachers' understanding of their own assumptions about learning, teaching and knowledge, and the ways in which those assumptions interact with the chosen methods, content and students. Efforts to understand and improve teaching will have to attend to the meaning which the teachers make and communicate, recognizing that "the ultimate source of good teaching lies not in the technique but in the identity of the teacher . . ." (Palmer, 1993, p. 11).

This implies, in turn, the need to more fully examine the perspectives of teachers who have been identified as good. There is a need to more fully and systematically describe and perhaps factor how they think about their teaching goals and process, the assumptions they make about learning and teaching and how, implicitly or explicitly, these guide their practice. This type of research will build a base for providing teachers with images of teaching from which to construct their own more functional perspectives.

CHAPTER III

METHOD AND DESIGN OF THE STUDY

A. Introduction

This chapter describes the activities of the study and the methodologies used to study the problem. It identifies the participants in the study and the techniques for data collection and analysis.

B. Description of the Study

The purpose of the study is to give a collective voice to a group of good teachers. By examining how they think about, interpret and make meaning of the experience called teaching and of their relationships with learners and learning, it facilitates understanding of the personal context within which the characteristics, behaviors and strategies of the good teacher exist. If the emerging constructivist paradigm provides a more adequate interpretation of the world than the positivist paradigm which has dominated research so far, then this personal context is an important factor in the development and practice of teaching.

The group of good teachers studied consists of recipients of the University of Massachusetts Distinguished Teaching Award between 1962 and 1995. The study examined the logic from which they construct their teaching and explored the possibility of dominant themes in the logic.

In the analysis, it also asked if understandings of teaching and learning have shifted over time, as a new paradigm for understanding the world has gained legitimacy.

To provide a starting point for understanding the Distinguished Teaching Award winners' personal constructions of teaching, the following research questions were proposed.

1. How do the winners of the Distinguished Teaching Award define or understand teaching? Learning? Their relationship to the processes?
2. How did they come to their understandings?
3. What motivates them?
4. What meaning does the Distinguished Teaching Award have for them?

The investigation of these questions involved a written survey of the total population of Distinguished Teaching Award winners, followed by in-depth interviews with a sample of the total population.

The survey was intended to gain descriptive data about the participants' backgrounds, activities related to teaching and their general thinking about some characteristics which have been identified in the literature on effective teaching as ways of thinking and behaving which are common to good teachers. It constructs a professional and personal context within which to consider the interview data. The responses to this survey were also used to gauge similarities between this group of

effective teachers and the characteristics and behaviors of effective teachers, as defined by the literature, and to examine possible differences in responses over time.

The in-depth interviews with a sample of the population of participants provided the opportunity to hear the specific voices of the individuals. The interviews were intended to explore the logic which guides their teaching, the meaning they construct for the process of teaching and their understanding of the relationships between themselves and learners and learning.

C. Research Methodology

Given the purpose and questions of this study, the methods employed are a combination of quantitative and qualitative. Consistent with the most common pattern of combining methods (Bogdan & Bicklen, 1992), descriptive statistics were used to analyze the data collected through the survey. The primary methodology was qualitative, in the form of in-depth interviews of a sample of the population. The choice of a primarily qualitative methodology for the study is dictated by the nature of the research questions, which focus on understanding the individual Distinguished Teaching Award recipient's construction of the world of teaching.

Qualitative research, also called naturalistic inquiry, entails an attempt by the researcher to understand "the meaning of events and interactions to ordinary people

in particular situations" (Bogdan & Bicklen, 1992, p. 34). Bogdan and Bicklen (1992) identify five features of qualitative research that are present to some degree in all qualitative studies: (1) the natural setting is the direct source of data and the researcher is the key instrument, (2) it is descriptive, (3) it is concerned with process rather than simply with outcomes or products, (4) data is analyzed inductively and (5) understanding the participants' perspectives is the essential concern.

As the purpose of this study is to develop an understanding of how good teachers think about, interpret and make meaning of the experience of teaching, qualitative methods are fully appropriate to the study. Indeed, the study has its roots in the growing recognition of the power of the individual to shape or construct his/her world of practice, a basic tenet of the emergent paradigm. And the "substantive assumptions [of emergent, vanguard thinking in virtually every major discipline or discipline-like area of scholarly endeavor] are found to have astonishingly close correspondence with the methodological axioms of naturalism" (Lincoln & Guba, 1985, p. 66).

The format of this study is that of the case study. A case study is used to "investigate a contemporary phenomenon within its real-life context when the boundaries between the phenomenon and context are not clearly evident and in which multiple sources of evidence are used" (Yin, 1984, p. 23). A case study is considered an appropriate

strategy when a how or why question is being asked about a contemporary set of events over which the investigator has little or no control (Yin, 1984). The current study, which asks "how do recipients of a Distinguished Teaching Award think about teaching?" and "why do they invest in teaching (what motivates them)?," meets these criteria.

The research design is the single-case, embedded design. One condition under which the single case design is appropriate is when the case has not been previously or extensively explored by researchers (Yin, 1984). It was chosen here because the subjects represent a group who, over time, share the common experience of having been recognized for excellence in teaching by their students and peers, but whose thinking about teaching has been unexplored. In addition, a literature review indicates little other systematic analysis of how distinguished teaching award winners think about teaching. An embedded design involves multiple units of analysis, incorporating those sub-units of analysis within the single case (Yin, 1984). It was selected for this case study because it allows for the examination of possible differences in thinking over different time periods and between different disciplines and genders.

The primary data collection methodology employed is in-depth interviewing, guided by the four major research questions and follow-up probes, in order to "gather descriptive data in the subject's own words so that the

researcher can develop insights on how subjects interpret some piece of the world" (Bogdan & Bicklen, 1992, p. 96). These interviews employed the general interview guide approach to qualitative interviewing (Patton, 1980). In this approach, the researcher identified the major topics for participant exploration in the form of open-ended questions, but did not attempt to direct or structure the participant's responses. The questions formed a common set of entry points into the participants' individual perspectives.

Planning for the trustworthiness of data collection and analysis is a concern when designing qualitative research. Yin (1984) identifies four criteria that are critical to the overall quality of a case study design. They are:

> construct validity: establishing correct operational measures for the concepts being studied;
>
> internal validity (for explanatory or causal studies only): establishing a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships;
>
> external validity: establishing the domain to which a study's findings can be generalized; and
>
> reliability: demonstrating that the operations of a study - such as the data collection procedures - can be repeated. (p. 36)

As this study is not an explanatory or causal study, the criteria of internal validity is not applicable. The criteria of external validity is of concern only

indirectly, for the study may suggest propositions which could be tested at a later time using replication logic, but as formulated the study does not claim any generalization or transferability. Thus, meeting the criteria of construct validity and reliability is the most relevant concern.

Establishing construct validity can be handled through the use of several case-study tactics, including using multiple sources of evidence, having participants review the draft case study report and establishing a chain of evidence (Yin, 1984). These tactics are incorporated into this study in the following manner.

Multiple sources of evidence include the written survey of the entire sample and fourteen followup in-depth interviews. During the data collection phase, the use of forms of triangulation and member validation provided checks on the accuracy of the data collection.

Triangulation involves the use of multiple methods, data sources or researchers to "improve the probability that finding and interpretations will be found credible" (Lincoln & Guba, 1985, p. 305). The survey of participant backgrounds, activities related to teaching and general thinking about some characteristics identified by the literature as common to good teaching contributes to triangulation. It provided data related to the participants' thinking about teaching through a second method.

Member validation is the process of giving the participant the opportunity to "judge whether or not he or she recognizes the sociologist's account as a legitimate elaboration and systematization of the member's account" (Bloor, 1983, p. 157). The member validation process addresses the truth value criteria of credibility, identified by Lincoln and Guba (1985) as analogous to construct validity, by assuring that the interpretations made by the researcher are "credible to the constructors of the original" (p. 296). It may also serve as a process that produces more data, not necessarily just as a test of validity and credibility (Bloor, 1983). The member validation process takes two forms in this study.

Within the interview, the researcher did not introduce a new question or topic before making a full response to the participant's last expression, including an identification of his/her feelings and a summary of the researcher's understanding of his/her meaning. This allowed the participant to validate the accuracy of the researcher's understanding, as well as providing the stimulus for further elaboration of the topic.

During the data analysis phase, the analysis and interpretation were made available to all participants who requested it, for review and comment. This provided the opportunity for corrections and the inclusion of more data in the analysis. In addition, a referee, a person uninvolved in the formulation of the research, was used to

read the transcripts and the researcher interpretations in order to check for researcher bias, unsupported conclusions or misinterpretations.

A case study data base, the formal assembly of evidence distinct from the final case study report, was used to maintain a chain of evidence from the initial research questions to the ultimate case study conclusions (Yin, 1984). This strategy contributes to credibility, dependability (Lincoln & Guba, 1985), construct validity and reliability (Yin, 1984). The data base for this study includes the surveys, original interview transcripts and researcher notes made immediately following the interviews as well as during the data analysis process itself.

One final consideration that is relevant in all research, and perhaps more so in qualitative research, is that of systematic identification of the researcher's own subjectivity and its possible role in the investigation (Peshkin, 1988). In the present study, I have a clear leaning towards the emergent, constructivist perspective as the preferred paradigm for understanding the world. I shall have to be cautious about allowing that preference to impose unduly upon the interview process or the data analysis.

As is the case in qualitative research, not all the research decisions could be anticipated, or finalized in advance of the study (Bogdan & Bicklen, 1992; Lincoln & Guba, 1985; Yin, 1984). The shaping of the details of the

interviews and the final data presentation were influenced by the ongoing process of data collection.

D. Subjects

The subjects of the study are the faculty winners of the Distinguished Teaching Award at the University of Massachusetts Amherst between 1962 to 1995. There have been 92 award winners. Of these, four have resigned from the University and eight are deceased. This study is concerned with the 80 faculty who are either still at the University or were retired from the University and could be located.

The entire faculty of the university is eligible for the award each year, and the winners are selected based upon the procedures described in Chapter I. The group includes representatives from all academic ranks, lecturer to professor, and from all of the University's schools and colleges.

1. Sampling Procedures

The written survey was administered to the recipients of the Distinguished Teaching Award who are still in the employ of or are retired from the University and for whom current addresses could be located, a total of sixty nine.

The interviewees were selected from the entire group of eligible award recipients. The sampling plan used was one of "maximum variation sampling, to document unique

variations that have emerged in adapting to different conditions" (Lincoln & Guba, 1985, p. 200). It involved randomly selecting two subjects from every 5 year period from 1962 to 1995. This generated a total of fourteen interviews, and allowed the analysis to examine possible changes in thinking about teaching over time.

Each recipient was assigned a number between 00 and 69. Using a table of random numbers (Downie & Heath, 1970), the first five numbers to appear in each five year period were chosen as potential interviewees. Beginning with the first appearing number in each category, the selected recipients were asked to participate. In four of the seven categories, it was necessary, due to recipients' professional responsibilities, to interview the third, fourth or fifth randomly chosen subject.

E. Data Collection

1. Phase I

a. Survey of University Distinguished Teaching Award Winners

The survey was designed to collect descriptive data about the participants' backgrounds, activities related to teaching and their general thinking about some characteristics which have been identified in the literature on effective teaching as ways of thinking and behaving which are common to good teachers.

The survey was mailed to the Distinguished Teaching Award winners a month after the start of the 1995-96 academic year. Follow-up reminders were mailed to subjects during the second week of November.

The survey was returned anonymously. All data from the survey are reported in the aggregate. The summary results were made available to any participant who requested them. A copy of the survey and accompanying cover letter are included in Appendix A.

2. Phase II

a. In-depth Interviews

In-depth interviews were conducted with a sample of fourteen of the sixty nine Distinguished Teaching Award recipients to whom the survey was mailed, chosen to represent the span of the Distinguished Teaching Award. Each interview was one to one and a half hours in length and was guided by a general interview protocol consisting of open-ended questions based upon the study's research questions. Copies of the interview guide and the written consent form are included in Appendix B.

The researcher audio-taped the interviews, with the agreement of the participants. Notes about the researcher's general impressions of the interviews' content and themes were made immediately following each interview, using a standard form to focus the researcher's summary (Appendix C).

The interviews were transcribed as soon as possible following the interview. Transcription was done by the researcher and by a typist who is not connected with the University. Participants' names did not appear in the transcripts. The transcripts of the interviews were made available to any participant who wanted to review his/her answers. The interview phase was completed the first week of May, 1996.

In the data analysis, all interviewees are treated anonymously. They are not identified by sex or discipline unless the analysis of the data uncovered clear differences between sexes or disciplines which made that identification necessary. In that case, as well as when quotes from the interviews are used to illustrate conclusions, aliases are assigned to participants.

The researcher made the data analysis and interpretation available to the participants for comment. Drafts of the data analysis chapter were provided to each interviewee who requested it, and their comments regarding the facts and the researcher's interpretation of the experience were solicited.

F. Analysis of Data

In qualitative research, the data analysis process is "essentially a synthetic one, in which the constructions that have emerged in inquirer-source interactions are reconstructed into meaningful wholes" (Lincoln and Guba,

1985, p.333). This means "interpreting and making sense out of the collected materials" (Bogdan and Bicklen, 1992, p.153), in this case the survey data and the voices of the teachers in the interviews.

The survey data were first analyzed descriptively to provide both a demographic profile of the subjects and a profile of their responses to the survey items related to teaching. This analysis considered the group as a whole and by sub-groups: sex, school/college affiliation and date of award. The sample size was not large enough to analyze for possible significant differences in responses between the sub-groups, but apparent trends are noted in several cases. The similarities between the responses of this population and the general literature findings on effective teaching are reported.

Analysis of the interview data involved processes of data collection and analysis that are more simultaneous and intertwined than independent of each other. The strategy employed may be characterized as a form of the constant-comparative method, which

> combines inductive category coding with a simultaneous comparison of all . . . incidents observed. . . . Thus, the discovery of relationships, that is, hypothesis generation, begins with the analysis of initial observations, undergoes continuous refinement throughout the data collection and analysis process, and continuously feeds back into the process of category coding. (Lincoln & Guba, 1985, p. 335)

Data analysis was guided by the initial research questions proposed for the study. The analysis developed a

coding system which identified themes and perspectives that are similar across the case, within and across questions and across time periods (see Figure 1: Initial Coding Categories). The themes that emerged were examined for relationships among and between them as well as for congruence with emergent perspectives on the contributions of a reflective, constructivist, relationship- oriented framework to effective teaching.

I: Definitions and Understandings of Teaching

A)	"Is..."	E)	Principles for teaching
B)	Goals of teaching	F)	Teaching process/methods
C)	"Depends on..."	G)	Personal characteristics
D)	Relationship/metaphor	H)	Teaching means....

II: Definitions and Understandings of Learning

A)	"Is...."	B)	Changes in students

III: Development as a Teacher

A)	Significant learning experience
B)	"The learning...."
C)	Entry into teaching

IV: Motivation and Rewards

A)	"Later effect"	D)	Students
B)	Own learning	E)	Uses personal talents
C)	Obligation/debt (personal or social)		

V: Meaning of the Distinguished Teaching Award

A)	Personal	C)	Teacher in research U.
B)	University context	D)	Who wins and why

Figure 1. Initial Coding Categories

CHAPTER IV

FINDINGS OF THE STUDY

This chapter reports the findings from the two phases of data collection in this study. It will provide a descriptive summary of the responses to the survey of the Distinguished Teaching Award recipients' backgrounds and activities and attitudes related to teaching and summarize thematically the participants' responses to the four major research questions.

A. Survey Results

Of the 69 surveys mailed, 45 (65%) were returned. The responses were distributed across the full chronological range of the Distinguished Teaching Award, from 1963 to 1995. Although the data was examined for possible differences in responses from recipients representing each of the three decades of the Award (1962-1972, 1973-1983, and 1984-1995), it was determined that the responses were more similar over time than different, and that the total number of responses was too small to test for significance where there were differences. Thus the responses are reported for the sample as a whole, unless otherwise noted.

The survey was organized into three categories of questions: background/demographic information, the participants' experience of teaching and the participants' experience of teaching awards and rewards. Each section

will be summarized separately, then relationships between items and the major research questions will be identified.

1. Background/Demographic Information

Eighty percent of the respondents are currently employed at the University, the other twenty percent retired from the University between the years of 1976 and 1995. Respondents are currently employed in seven of the nine Colleges/Schools of the University (Natural Sciences and Mathematics, Humanities and Fine Arts, Social and Behavioral Sciences, Education, Foods and Natural Resources, Management and Public Health), while the retirees also include representatives of the School of Engineering. The School of Nursing was not represented in the sample. The distribution of respondents within each College/School is analogous to the distribution of Awards within the total population of Award recipients (see Table 1).

Thirty different disciplines are reported by the respondents. English was the most frequently represented discipline (13.3% of the total), as well as being the most frequently represented discipline (12% of the total awards) in the total population.

Table 1

College/School Distribution of DTA Recipients

% of Total Awards per College/School

	NS-M	H-FA	S-BS	Ed.	F.NR	Mgt	Engin.	P.H.	N
Population (N=92)	25	30	13	9	18	3	6	2	1
Sample (N=45) Currently Employed	16.2	29.7	16.2	13.5	18.9	2.7	*	2.7	0

*2 respondents, retired, 4% of sample

The majority (75.7 percent) of the respondents hold the rank of full professor; 73.3 percent of the respondents are male; 26.7 percent are female. Their average age at the time of the Award was 44.71. They had been teaching an average of 17.3 years (see Tables 2 and 3).

Table 2

Current Rank of Respondents

Department Head	10.8%
Professor	64.9%
Associate Professor	21.6%
Assistant Professor	0
Lecturer	2.7%
Retired	20.0%

It appears, though, that there are decade related differences worth noting here. Although the overall ratio of male to female respondents is 3 to 1, the ratio of male to female recipients changes from 87.5% to 12.5% between

Table 3

Sex, Age at Award, & Years Teaching at Award

	Sex (% of sample)			
	Male	Female	$\bar{X}$ Age (yrs)	$\bar{X}$ yrs tchg
'62-'72	87.5	12.5	38.75	11.13
'73-'83	81.3	18.8	44.0	16.13
'84-'95	61.9	38.1	47.5	20.6
total sample	73.3	26.7	44.71	17.3

1962 and 1972 to 61.9% to 38.1% between 1984 and 1995. There is also a trend towards Award recipients being both older (47.5 years versus 38.75 years) and more experienced (20.6 years teaching versus 11.13 years teaching) when the 1984-1995 recipients are compared to the 1962-1972 recipients. Both of these trends are consistent with changes in the University over the past 30 years, specifically the implementation of affirmative action initiatives and the slow-down in growth and hiring during the '80s and '90s.

As a group, the majority (52.3%) of the respondents report spending 50 percent or more of their teaching time on general education/lower division/core courses at the time of their Award; 61.9 percent report spending less than 25% of their teaching time on graduate level courses (see Table 4). None of the respondents reported carrying a less

Table 4

Distribution of Teaching Load at Time of Award

Type of course	Percent of Teaching Load 0-25%	26-49%	50%	51-75%	76-100%
General Education	38.7	9.1	27.3	11.3	13.7
Upper Level	50.1	15.9	20.5	6.8	6.8
Graduate	61.9	12.0	19.0	4.8	2.4

than average teaching load for their department at the time of their Award. Almost half (47.7%) reported an above average teaching load at the time of their Award.

When asked about their current professional interests and the amount of time they currently spend on teaching, research and service, the respondents' answers are consistent with the past emphasis on teaching reported above. The professional interests of 36.4% are divided between teaching and research as equally important and complementary activities. Several respondents commented that they view much of their research and writing as "teaching on paper." Forty-one percent reported their professional interests as leaning more heavily towards teaching, while only 13.6% emphasized a research orientation (9.1% were currently involved in administrative capacities, or were retired from active teaching and research).

Currently, 44.3% of the respondents spend 50 percent or more of their time on teaching, and an additional 26.7% report spending 40% to 45% of their time on teaching. Only 14.3% report spending 50 percent or more of their time on research, with the majority (40%) spending 5% to 35% of their time on research. Service claimed less than 20% of their time for 50% of the respondents (see Table 5).

Table 5

Current Distribution of Professional Responsibilities

	Percent of Time			
	≤ 5%	6-35%	36-49%	50+%
Research	28.6	35.9	21.5	14.3
Teaching	13.3	15.5	26.7	44.3
Service	23.8	64.4	7.1	4.8

It should be noted that, while 23.8% of the total sample reported spending no time on research, 57.1% of those from the first decade of the Award versus only 10% from the last decade reported this. This clearly reflects the University's movement towards status as a research university, for several of the earliest recipients commented that they were hired to teach, not to do research, and that they were "the last of a dying breed around here." They were also less involved with service activities (57.2% spent 5% or less time on service versus 10% of the last decade's recipients).

The respondents' interest in and commitment to teaching goes beyond the time spent on teaching and

teaching related duties; 64.5% report that they are, or have been, involved with committees or associations (campus or professional) which are concerned with teaching. They mention on-campus involvements with the Center for Teaching, the Distinguished Teaching Awards Selection Committee, the university Council on Teaching Improvement and departmental/school faculty development programs. They have served on committees on teaching and educational standards of such professional organizations as the National Council on Education for Ceramic Art, the American Society for Engineering Education, the Association for Education in Journalism and Mass Communications, the Entomology Society of America and the American Psychological Association. Several are members of professional organizations which are concerned with teaching at all levels, such as the American Society for Curriculum Development, the National Council of Teacher Education and the Massachusetts Teacher's Association.

And 51.1% have won other awards or recognition for their teaching in addition to the university's Distinguished Teaching Award. These include teaching awards during tenure at other institutions, multiple nominations for this Distinguished Teaching Award, nominations and selection as the state's CASE Professor of the Year and teacher of the year awards from professional associations within their respective disciplines. Yet, not surprisingly, fewer than 18% report any type of formal

training or assistance with the development of their teaching (see Table 6).

Table 6

Reported Formal Training in Teaching

	T.A. Training	Education Methods Course	University Seminar/ Consultant	Professional Conference/ Workshop	Other
Percent Reporting	11.1	13.3	17.8	17.8	2.2

2. Experience of Teaching

The items in this section of the survey asked respondents about what they viewed as important and satisfying in their teaching, what it is that they're trying to accomplish when they teach and how they approach developing and improving their teaching. Overall, the responses to these items demonstrated a high degree of consistency both within the individual surveys and across the sample.

Teaching encompasses a large number of activities. When asked to rate the relative importance to their own teaching of six activities which are identified in the literature as being characteristic of effective teachers (Appendix A, Item 15), the majority of the Distinguished Teaching Award recipients rated all six as more than moderately important in their teaching (see Table 7).

Table 7

Rated Importance of Teaching Activities

	Not Important		Moderately Important		Very Important
Preparing for classes, assignments, exams	0%	2.2%	0%	11.1%	86.7%
In-class teaching activity	0%	0%	2.2%	8.9%	88.9%
Prompt grading	2.2%	0%	17.8%	24.4%	55.6%
Thinking about my teaching	2.3%	2.3%	20.5%	15.9%	59.1%
Meeting students outside class	0%	11.1%	24.4%	15.6%	48.9%
Getting to know students personally	4.5%	4.5%	34.1%	18.2%	38.6%

The activities that were rated as very important with the most consistency were preparing for classes, assignments and exams and the in-class teaching delivery. 97.8% of the respondents rated both of these as being important or very important to the effectiveness of their teaching; 88.9% of the 97.8% rated their in-class teaching delivery as very important. And 86.7% of that 97.8% said preparation was very important, a response echoed by all of the interviewees in such comments as "even though I've been teaching this intro course for 15 years, I still spend almost 2 hours preparing for each class I teach."

Prompt grading of assignments and exams was very important for 55.6% of the respondents and important for another 24.4%. This was one activity which appears to be viewed as more important by the earlier winners, with 87.5%

and 93.8% of the 1962-1972 and 1973-1983 groups respectively rating prompt grading as important or very important versus 66.7% of the 1984-1995 recipients.

Time spent thinking about their teaching and doing pedagogical problem solving was rated as very important by 59.1% of the respondents and as important by another 15.9%. Time spent with students individually was seen as important by fewer respondents, though still rated highly by a majority. Meeting with students outside of class was very important to 48.9% and important to another 15.6%. Getting to know as many students personally as possible was seen as very important by 38.6%, important by 18.2%.

Respondents added several other activities that they saw as very important to the list. Knowledge of content and T.A. training and preparation were cited, and could be seen as variations of preparing for classes. Similarly, conveying enthusiasm for content and encouraging student interaction could be classified as specific in-classes delivery functions. Beyond those, advising, a personal belief in the social value of teaching and his/her own research and creative work were identified as making very important contributions to teaching.

The survey then asked for respondents' assessment of the satisfaction provided by various aspects of their teaching experience (see Appendix A, Item 16). One cluster of items were almost universally (95-100% of respondents) rated as being much more than moderately satisfying. These

items are all aspects of observing the growth of students and the students' relationship to the content.

More specifically, seeing students catch on and begin to understand something which they previously couldn't was rated as greatly satisfying by 79.1% of the respondents and as satisfying by the remaining 20.9%. Seeing progress in student learning was greatly satisfying to 73.3%, satisfying to 22.2%. Increasing student interest in, involvement in and questioning of course material was greatly satisfying to 77.3%, satisfying to 21.2%. Observing students beginning to apply new understandings was greatly satisfying to 59.1% and satisfying to another 36.4%. And getting students to look at things in new ways was greatly satisfying to 71.1%, satisfying to 26.7%. One respondent added helping students to become self-directed, an aspect which fits into the cluster of student growth and learning (see Table 8).

The percentage of respondents rating the remaining items as greatly satisfying or satisfying was much smaller (see Table 9); 54.8% found giving knowledge to students greatly satisfying and 23.8% rated it satisfying, but 3 respondents commented that "you can't give knowledge to anyone"; 41.9% rated forming relationships with students as a group greatly satisfying and 40.9% rated forming relationships with students as individuals the same.

Table 8

Most Highly Rated Sources of Satisfaction

	Not very Satisfying		Moderately Satisfying		Greatly Satisfying
Seeing students beginning to understand	0%	0%	0%	20.9%	79.1%
Seeing students' progress	0%	0%	4.4%	22.2%	73.3%
Increasing student involvement/interest	0%	0%	4.5%	21.2%	77.3%
Student application of learning	0%	0%	4.5%	36.4%	59.1%
Getting students to see world in new ways	0%	0%	2.2%	26.7%	71.1%

Table 9

Less Frequently Highly Rated Sources of Satisfaction

	Not very Satisfying		Moderately Satisfying		Greatly Satisfying
Giving knowledge to students	2.4%	19.0%	0.0%	23.8%	54.8%
Forming relationships with students as a group	2.3%	11.6%	25.6%	18.6%	41.9%
Forming relationships with students as individuals	0.0%	13.6%	18.2%	27.3%	40.9%
Preparing students for careers	2.4%	12.2%	29.3%	19.5%	36.6%
Recruiting talent into my field	9.5%	4.8%	40.5%	26.2%	19.0%
Public performance	2.4%	16.7%	19.0%	50.0%	11.9%

Preparing students for careers was seen as greatly satisfying by 36.6%. Identifying, recruiting and guiding talented students into their field was greatly satisfying

for 19% of the respondents. The majority saw these items as moderately satisfying. The aspect of public performance was a greatly satisfying activity for only 11.9% of the respondents, while 50% rated it as satisfying.

In addition to rating sources of satisfaction, respondents were also asked about sources of stress (see Appendix A, Item 17). While each potential source of stress identified showed more of a range of ratings than in the two previous items, there were still some tendencies observed in the responses.

There were only three items which were rated as moderately to greatly stressful by the majority of the respondents. Two stressors (lack of student curiosity/intellectual initiative and poorly prepared students) represent the flip side of the strongest sources of satisfaction for this group of teachers. Dealing with poorly prepared students was cited as moderately to greatly stressful by 73.4% of respondents, with 46.7% saying it was a greater than moderate source of stress. The respondents rated lack of student curiosity and intellectual initiative similarly: 71.1% rated it as a moderate or greater source of stress, with 44.4% rating it greater than moderate. Desire to satisfy their own standard of teaching excellence was also cited as moderately or greater stressful by 68.2% of the respondents, with 45.5% rating it greater than moderate (see Table 10).

Table 10

Sources of Stress - Moderate to Great

	Not a Source of Stress	Moderately Stressful	Greatly Stressful
Poorly prepared students	24.5%	26.7%	46.7%
Lack of student intellectual initiative	26.7%	26.7%	44.4%
Meeting own standards for teaching excellence	31.8%	22.7%	45.5%

The remaining potential stressors, with the exception of student failure to master course content, were rated as moderately or less than moderately stressful by the majority of the respondents (see Table 11). Least stressful were student evaluations, repetitious teaching assignments and recognition of teaching in terms of prestige, with 3/4 of the respondents rating these as being less than moderately stressful for them. Recognition of teaching in terms of salary, while not a major stressor for the majority, was rated as more than moderately stressful for 28.3%--twice the number of respondents who experienced the relative prestige of teaching as a stressor.

The respondents' experience of student failure to master course content as a stressor was more evenly distributed over the full range of non-stressful to greatly stressful experiences. 38.6% find this less than moderately stressful, 34.1% moderately stressful and 27.3% more than moderately stressful.

Table 11

Sources of Stress - Little to Moderate

	Not	Moderate	Great
Student Evaluations	75.0%	18.2%	6.8%
Repetitious Teaching Assignments	75.0%	11.4%	13.6%
Prestige	72.7%	13.6%	13.7%
Teaching Schedule	65.9%	22.7%	11.4%
Lecturing	63.7%	15.9%	20.4%
Salary	60.4%	11.4%	28.3%
Student Complaints	56.9%	25.0%	18.1%
New Course Preparation	56.9%	22.7%	20.4%
Campus Climate	56.9%	18.2%	24.9%
Time for Class Preparation	52.3%	25.0%	22.7%
Grading	52.2%	22.7%	25.1%
Student Failure	38.6%	34.1%	27.3%

The role or function of the teacher can be described in a number of different ways. Respondents were asked to rate some of these functions in relation to their own experience of teaching, as being not at all descriptive to very descriptive of their teaching (se Appendix A, Item 18 and Table 12).

Of the eight functions listed, a cluster of three related functions were each rated as more than moderately descriptive by seventy percent or more of the respondents. Helping students to develop higher order thinking skills was seen as very descriptive of their teaching by 60 percent of the respondents, and more than moderately

Table 12

Descriptors of Role as Teacher

	Not Descriptive		Moderately Descriptive		Very Descriptive
Helping students develop higher order thinking skills	2.2%	4.4%	8.9%	24.4%	60.0%
Helping students see world in new way	0%	6.8%	6.8%	27.3%	59.1%
Fostering student personal growth and development	7.0%	2.3%	18.6%	37.2%	32.6%
Transmitting facts/principles	9.1%	2.3%	34.1%	11.4%	43.2%
Helping students experience selves as knowers/creators of knowledge	7.1%	7.1%	31.0%	19.0%	33.3%
Providing a role model	2.4%	16.7%	31.0%	14.3%	33.3%
Helping students to develop basic learning skills	2.3%	20.5%	25.0%	25.0%	25.0%
Preparing students for jobs or careers	9.3%	16.3%	41.9%	14.0%	18.6%

descriptive by another 24.4%. A closely related function, helping students to see the world in a new way, was rated very descriptive of their teaching by 59.1% and more than moderately descriptive by 27.3%. And fostering student development and personal growth was reported to be very descriptive of their teaching by 32.6% and more than moderately descriptive by 37.2% of the respondents. These responses are consistent with the strong satisfaction ratings given to seeing student progress, seeing students gain new perspectives and seeing students catch on to new learnings, as well as with the relative importance given to getting to know students personally.

There was a greater range in the ratings of descriptiveness for three other functions, although the majority of the respondents still saw these as at least moderately descriptive of their role as teachers. Transmitting the facts and principles of their subject matter was very descriptive of their role for 43.2%, more than moderately descriptive for 11.4% and only moderately descriptive for 34.1%. Helping students to experience themselves as knowers and creators of knowledge was very descriptive for 33.3%, more than moderately descriptive for 18.7% and moderately descriptive for 31%. Providing a role model for students was seen as very descriptive for 33.3%, more than moderately descriptive for 14.3% and moderately descriptive for 31%.

Helping students to develop basic learning skills was rated as very descriptive of their role as a teacher by 38% of the respondents, as more than moderately descriptive by 12% and as moderately descriptive by another 25%. The percentage of respondents rating this function as very descriptive increased markedly over time: none of the respondents from the first decade of the award rated this as very descriptive of their role, while 20% from the second decade and 38% from the third decade did. Altogether, 75% of the respondents rated this as more than moderately descriptive of their role, which is consistent with the fact that 73.4% of the respondents rated dealing

with poorly prepared students as more than moderately stressful.

Preparing students for jobs or careers was the function least rated as more than moderately descriptive, with only 18.6% of the respondents rating this as very descriptive and 14% as more than moderately descriptive. This is consistent with the ratings given to preparing students for careers as a source of satisfaction.

Descriptors of their role as teachers added by the respondents included fostering student self-esteem and discovering new things with students. Several respondents commented that the degree to which an item described their teaching was dependent upon the course they were teaching. Different courses have different goals and processes. These comments were repeated in all fourteen interviews, and are consistent with the literature on effective teaching, which concludes that, to some degree, what constitutes good teaching depends upon the specific students, content and learning goals.

The respondents were asked about the ways in which they attempt to improve their teaching by identifying and ranking in importance the five activities (out of a list of fifteen) done most frequently to enhance their teaching (see Appendix A, item 19). The activities most frequently ranked among the five most important were trying to make changes indicated by student evaluations, talking to other faculty, experimenting with new teaching strategies and

utilizing the newest technological teaching aids (see Table 13).

Table 13

Activities for Improving Teaching Most Frequently Ranked within Five Most Important

		% rating	% of total acct. for
RANK #1	Experiment with new teaching strategies.	47.6%	
	"Other" (overlap with use feedback from student evaluation).	16.7%	78.6%
	Use feedback from student evaluations.	14.3%	
RANK #2	Use feedback from student evaluations.	30.8%	
	Attend workshops/seminars on teaching.	12.8%	56.4%
	Talk to other faculty.	12.8%	
RANK #3	Talk to other faculty.	22.9%	
	Use feedback from student evaluations.	20.0%	57.2%
	Experiment with new teaching strategies.	14.3%	
RANK #4	Use newest technological teaching aids.	21.2%	
	Read articles on teaching.	15.2%	
	Use feedback from student evaluations.	9.1%	
	Share syllabi.	9.1%	72.8%
	Do informal research on student learning.	9.1%	
	Publish papers on teaching.	9.1%	
RANK #5	Read articles on teaching.	13.3%	
	Talk with other faculty.	13.3%	
	Experiment with new teaching strategies.	13.3%	53.2%
	Use newest technological teaching aids.	13.3%	

There was the most agreement among respondents about which activities were of most importance to them. Three of the fifteen activities accounted for 78.6% of the top ranked spot: 47.6% ranked experimenting with new teaching strategies first, 14.3% said that making changes indicated by student evaluation was first, and 16.7% indicated "other." "Other" included activities that are specific

versions of using student evaluation/feedback and experimenting with new teaching strategies, such as talking with students informally, getting to know students, using exam results and thinking or reflecting on the last lecture/class and planning changes.

The activities most frequently ranked as second most important to improving teaching were trying to make changes indicated by student evaluations (30.8%), talking to other faculty (12.8%) and attending workshops or seminars on teaching (12.8%), accounting for 56.4% of the second ranked activities. The activities most consistently ranked in the third spot were talking to other faculty (22.9%), trying to make changes indicated by students evaluations (20%) and experimenting with new teaching strategies (14.3%).

When considering the fourth and fifth most important activities, the choices were distributed over a greater range of activities. The most strongly supported fourth ranked activities were using the newest technological teaching aids (21.2%), reading articles on teaching (15.2%) and trying to make changes indicated by student evaluation, sharing and discussing syllabi, conducting informal research on student learning and publishing papers on teaching (9.1% each). The activities most frequently ranked in fifth place (13.3% of respondents for each) were reading articles on teaching, talking with other faculty, experimenting with new strategies for teaching and using new technological teaching aids.

Obtaining a grant to study some aspect of teaching was not identified within the top five activities by any respondent. Having another faculty member observe classes, getting help from a teaching consultant, conducting formal research on student learning and attending national meetings on teaching were mentioned, but by only a very few respondents. Three respondents commented that they did none of the listed things to improve their teaching - they just taught.

Overall, the respondents' satisfaction with and enjoyment of teaching is high (see Appendix A, items 20 & 21, and Table 14); 100% are satisfied or better with what they have been able to accomplish in their teaching, in terms of <u>their own standards and objectives</u>, and 80% rate their teaching as very high in terms of their own personal enjoyment. Although the desire to satisfy their own standards of excellence in teaching was rated as one of the three top stressors, it appears that the self-imposed pressure pays off.

When rating their teaching in terms of the level of interest shown by students (from very low to very high), 100% of the respondents rated this as moderate or better. When considered in terms of the level of performance shown by students, the majority rated their teaching experience as high or very high.

Table 14

Ratings of Teaching Experience

	1 not at all/very low	2	3 moderate	4	5 very high
Satisfied with accomplishments	0%	0%	17.1%	43.9%	39.0%
Personal enjoyment	0%	0%	8.9%	11.1%	80.0%
Student interest	0%	0%	8.9%	44.4%	46.7%
Student performance	0%	2.3%	18.2%	52.3%	27.3%

3. Experience of Rewards and Motivations

The last section of the survey asked about the Distinguished Teaching Award recipients' experience of the rewards for teaching, including the awarding of a Distinguished Teaching Award (see Appendix A, item 22). The literature on college and university teaching suggests that, in general, teaching is not adequately supported or rewarded by institutions. Overall, 78.6% of the respondents agreed with that statement. This belief has become more prevalent over time, with 80% of the recipients between 1984 and 1995 agreeing versus 57.1% agreement from the recipients between 1962 and 1972.

When asked the same question about their experience at the University of Massachusetts and within their own department, agreement was not as strong; 48.8% agreed that the university doesn't adequately support or reward teaching, an experience that was more common for the second

and third decade of Distinguished Teaching Award recipients (28.6% in the first decade agreed versus 71.4% and 40% in the second and third decade). And only 43.9% agreed that their school or department doesn't support or reward teaching. Again, the second decade of recipients felt that they weren't supported more strongly (64.3%) than the first decade (42.9%) or the third decade (30%) of recipients. This trend may reflect the university's rapid growth into a major research university during the late 1960s, 1970s and early 1980s, as well as the effects of recent calls for more attention to teaching. This interpretation is supported by a comment offered by a respondent, who said that "research is rewarded more, but we are seeing some improvement." Of those respondents who had taught at places other than the University of Massachusetts (58% of the respondents), 62.5% agreed that teaching was not adequately supported or rewarded at those institutions either.

In light of the general lack of support and reward for teaching, does a Distinguished Teaching Award make a difference? Does it serve as an effective reward and motivator for focusing on quality teaching? (see Appendix A, item 23). The general tone of the respondents was that it, in the words of one who commented, "rewards, but it doesn't motivate, since it is not expected. There are only three from the whole university"; 28.6% of the respondents thought that it served as a reward/motivator not at all or

very little; 28.6% said it moderately rewards/motivates good teaching. And 42.8% thought it was a more than moderate reward or motivator, but it doesn't "institutionalize good teaching," in the words of another.

What does serve as a motivator and support for the respondents (see Appendix A, item 24)? They were asked to choose and rank the top four motivators from a list of seven. The items which were ranked in the four top positions most frequently fall into two general categories: relationship with students and relationship with content. The first category includes contact with students (placed in the top four by 60% of the respondents) and the chance to impact students' development (ranked in the top four by 87.6%). The second category includes the opportunity for insights into your content (ranked in the top four by 70%) and the opportunity to master new content and make it accessible to others (ranked in the top four by 65%). Some combination of those four items accounted for over 75% of the motivators ranked in each of the top four spots (see Table 15).

Only 18% of the respondents placed being a Distinguished Teaching Award recipient in their list of top motivators at all. Learning more about teaching and talking about teaching with colleagues were also very infrequently ranked among the top four. The motivators which were added to the list by respondents appear to be variations of the first category, relationships with

Table 15

Most Frequently Ranked Motivators

		% ranking	% of total rankings/phase
RANK #1	Student contact Chance to impact student development Opportunity for insights into content	38.6% 29.5% 11.4%	79.5%
RANK #2	Chance to impact student development Student contact Opportunity to master/share new content Insights into content	42.6% 21.4% 16.7% 14.3%	95.3%
RANK #3	Opportunity to master/share new content Opportunity for insights into content	33.3% 20.5%	53.8%
RANK #4	Opportunity for insights into content Opportunity to master/share new content Chance to impact student development	24.2% 15.2% 15.2%	54.6%

students. Mentioned were personal values, a sense of social mission, appreciation shown by students and a personal concern for students.

Did being recognized as a distinguished teacher impact the recipients' experience of being valued and viewed as a resource for improving the quality of teaching beyond their own classrooms (see Appendix A, items 25 & 26)? It appears that receiving a Distinguished Teaching Award didn't make a large difference in this area. While 62.2% reported that they had been asked by a colleague within their department for help or advice on teaching before receiving the award, only 51.1% reported being asked after the award. Before receiving the award, 31.1% were asked for help or advice by a colleague in another department; 37.8% were asked after

the award; 37.8% were asked to share their perspective on teaching through such means as an article or seminar prior to receiving the award, 42.2% were asked after receiving the award. In both these cases, the percentage asked has increased since the first decade of the award, perhaps due to the establishment of a university Center for Teaching in the late 1980s.

Department chairs and administrators had asked 17.8% to mentor another faculty member before they received the award; 28.9% reported being asked to serve as a mentor after receiving the award. But, while 28.9% reported being offered extra support (emotional, time, resources) for teaching prior to receiving an award, only 18.2% were offered the same after the award.

Overall, the respondents' experience of being valued as a resource supports their perception that teaching is not adequately supported or valued in higher education. Indeed, during an interview, one respondent reported that, having won the Distinguished Teaching Award before he was up for tenure, he was "offered condolences by several friends, and advised to up my publication schedule."

Many respondents would like to have the opportunity to change this, to be involved in efforts to improve the overall quality of teaching at the university. Only 14.3% reported that they had been asked formally to be a part of such efforts (and had agreed), and another 45.2% would like to be called upon as resources. 4.8% said that, depending

upon the time commitment, maybe they would participate. 35.7% said they did not wish to be involved.

The responses to the questions about the sources of satisfaction, the stressors in teaching, their view of their role and functions as a teacher, and about the motivations for teaching (Items 16, 17, 18, & 24) provide a consistent image of what the respondents are about. They are about investing in student growth and intellectual development through interaction around a specific content area. The responses to these items help to answer questions about the definitions and understandings of teaching and what motivates them. The more detailed and personal responses of the interview participants expand on this image.

B. Interview Findings

The analysis of the interviews was organized by the major research questions: (1) How do the winners of the award define or understand teaching? Learning? Their relationship to the processes?; (2) How did they come to their understandings?; (3) What motivates them?; and (4) What meaning does the Distinguished Teaching Award have for them?

Within each category, major themes emerged which describe how they think about their teaching, how their understandings of teaching developed and often shifted over the course of their experience as teachers, what motivates

their commitment to teaching and what the Distinguished Teaching Award means. The question of possible differences between subgroups, especially differences related to the time at which they received the Award, was also asked.

1. Understandings of Teaching

This question involves what it means to be a teacher, how the participants describe the goals and process of teaching and learning, the general principles that guide their actions and how they experience their relationship to the students and the teaching process. Four major clusters of themes emerged from the interviews:

- Teaching Is . . . Definitions of teaching and the goals the participants have in mind when teaching, for themselves and the students' learning;
- The Teaching Process General principles which guide planning and in-class delivery and specific behaviors seen as important in implementing their principles;
- Beliefs and Values Personal beliefs about learning and teaching and their role in the process, expressions of values that influence their principles and practice;
- Teaching Means . . . What being a teacher means to them and the metaphors they use to describe their relationship to the students, content and teaching process. Their responses are summarized here.

a. Teaching Is . . .

Teaching is "incredibly important" (Joyce:18). This is a given for all the participants. Beyond this fact, there are a number of dimensions, all related, that appear in their definitions. All the definitions offered go well beyond defining teaching as just conveying information, even in the case where the teacher's first response was "conveying information . . . that very simple" (Carl:1). And the definitions which emerge from the interviews are consistent with the responses to the survey question about the role or function of the teacher.

There is a sense that facts are <u>necessary</u>, but not sufficient components of teaching and learning. "You need facts to tie methods to" (Carl:16). Teaching should be more concerned with helping students learn to do something with the information. The goals involve "partly information, partly reasoning about the information" (David:4). Teaching is "trying to convey information, trying to shape the way someone thinks about that information, how they weigh evidence and trying to use that information to give them a different view of the world or a deeper understanding of themselves and where they fit in the world" (Joyce:1).

Congruent with this perspective, the participants spoke of a variety of types of learning: "mastery and understanding of the content of the subject" (Wayne:2), "making connections with other experience and knowledge"

(Jack:2), "grasping a fundamental concept that is there forever and changes the way you look at things" (Carl:2) and "learning about yourself in the process" (Wayne:2). Unanimously, the first variety is needed, but is not all they aim to achieve with students.

Over half the participants were even more explicit about what is implied in the preceding definitions. Teaching is "helping someone to learn to make sense out of what's in front of them, to learn a process, to learn to look for relationships, to understand the world as a dynamic, interactive place" (Peter:4). A teacher is "a facilitator who helps somebody else make meaning out of experience" (Jack:1). This theme of helping students to make meaningful sense out of content and its relationship to themselves and their worlds was strong, and was seen in all disciplines, from engineering to art, and across the span of time.

Several participants also made the point that teaching is about helping students to learn about their own learning, to acquire an attitude towards life and learning that will remain with them long after they leave the classroom and the specific facts of the course. "Basically, helping them to keep the door open to learning, in their own minds" (Andrea:1).

Teaching is also motivating, so that students become involved in making meaning out of their experience of the content. It's "trying to make the student want to learn,

to make the effort" (Carl:1), "trying to get people excited about my area" (Peter:1).

Thus teaching involves "maximizing the conditions for a constructive experience"(Wayne:11), "creating a world that's compatible with learning, how the brain works"(Jack:1), and "building their confidence. . . . I can take them to the threshold, then it's up to them, but you keep reinforcing them" (Darrell:2). It's important to do this because "you only learn from work you do yourself. People can tell you stuff, but you won't learn anything without thinking about it yourself" (Carl:1).

This meaning making and motivating happens within the context of a relationship, experienced as a key ingredient. Teaching also "is a relationship in which I will communicate some information to them, some experience and guide them in the process of learning new ideas. The relationship is reciprocal. I will be receiving from them also" (Wayne:1). And this is true whether it's a class of 7 or 8 graduate students or 500 undergraduates. Learning is a social activity (Mark:14), occurring when "you actively engage the students" (Shellie:12).

From this perspective, there are two major goals in teaching. One involves method and discipline, the other enthusiasm and excitement for learning. A classroom should be "a place of enlightenment and entertainment - of joy" (Charles:5).

Regarding method and discipline, goals include teaching "a lot of factual material, but also a method of looking at things, looking at how things are constructed" (Shellie:11). The participants want to teach students to "think and analyze and do some other things that could be applied to other areas . . . to give them confidence in their intellectual abilities" (Jerry:4), to acquire "certain habits--of reading, of thinking, of getting another point of view....not just the facts" (Mark:11) and to "see their learning as a process that they have control over" (Andrea:8). "When I talk about multiple choice as a style of exam, I tell them that they really have to realize that life is not a multiple choice situation. You have to fill in the blanks" (Peter:10), so "I'm teaching them a skill as much as teaching them facts and concepts. . . . A kind of a way of looking at things [that has applicability to life]" (Peter:6).

The complementary goals are to "generate excitement for learning" (Jack:7), to help students "get in touch with their own hope about learning" (Andrea:6). The enthusiasm is necessary to support the first set of goals, to motivate students' continuing involvement in intellectual activity, to help them "to claim something in themselves" (Andrea:10) as learners. "You want them to see that they can go here (to where the teacher is) too" (Darrell:4).

b. The Teaching Process

Though "skeptical of any <u>one</u> way to be an effective teacher" (Carl:7), the participants offered their thoughts on what contributes to their success, expressed as both general principles and, in some cases, specific activities that reflect those principles. The underlying theme throughout this section is that paying attention to the students and the shared experience in the classroom is of paramount important. This is seen as they talk about the responsibility to organize content and class activities, making connections for and with the students, guiding their actions by student feedback, the need to be open to relating to the students and, in the end, letting go and leaving room for what happens.

A large responsibility of the teacher is to organize the content systematically, on the principle of "if I could organize it so I could understand it, then I could present it so the students could understand" (Jerry:3). The teacher is responsible for deciding what is taught, although the students will influence how that is taught.

The teacher should provide direction, "give a presentation that's clear and talk about what's important" (Charles:8), and do so in a way that is "as useful as possible" for the students (Wayne:4). The teacher should also be aware of the constraints of the context while planning, for example, the need to "shape my lecture, give so many minutes to story A and so many minutes to story B

and allow time for questions as well" (David:2). If the teacher is organized, he/she can "go in with a message and use the content and class activities to support it" (Wayne:6), and "even if you end up at a different place, you know how you got there" (Carl:7).

Organization also includes methods, with an emphasis on varying those often (the 20 minute principle) to encourage student attention and involvement. This is seen as an important process goal. "Keeping them interested is the effective way of getting them focused on what you're trying to get across" (Peter:5), not to be confused with or done at the expense of the substantive learning goals of both conveying basic content and facilitating student meaning-making.

It is also important to make connections, to link the course content to the students' frame of reference, to "make sure that you present ideas in a context people can relate to . . . not so alien from their experience that they can't make any sense of it" (Carl:1). This can take the form of "lots and lots of analogies" (Carl:1), "getting inside their systems" (Jack:3) to be able to "link prior knowledge and experience" (Jack:4), using "words that are not too hard, organizing my arguments so that one thing flows nicely into another (David:9), and connecting content to "social issues, to try to make them relate content to life" (Joyce:5).

It's important to "present material in a way that they'll be able to receive it . . ." (Charles:8), to build bridges between students and content. This often involves humor as well, though most often "it's not humor that's ever planned. Once in a while there's some anecdote that I know will get them going, but usually it's just spontaneous. . . . It just pops up as I interact with the content and the feedback, the questions the students ask" (Peter:4).

Making connections requires that the teacher be guided by student feedback. This involves close attending to the students, especially to the nonverbal cues of involvement and understanding. Circulating around the class or lecture hall, closing the distance between teacher and students, observing faces, engaging students in small conversation and encouraging "give and take, where they share their insights so I can use that to help them to absorb more or use more" (Andrea:1) are some of the things that these teachers do.

They are clear that teaching cannot be decontextualized or disembodied. The cues immediately impact the teacher's decisions to alter the plan, to refine an explanation, to spend more time on an idea "if it justifies the money they're paying" (Carl:4) and contributes to "the greater good of the class" (Jerry:15). The combination of close attending and organization "frees

me to be a constructivist - to hear a statement and one over here and weave it into what I'm doing" (Jack:8).

Teaching is about improvisation. "I have a syllabus for structure, but the tempo's different in each class. You have to play it by ear" (Darrell:5). "I don't lecture from notes. The night before I always go over the lecture....then when I get to class I start talking. . . . I quite often change my lectures in mid-lecture" (David:16).

Guiding by student feedback implies the next important principle visible in the participants' thinking--be open to relating to the students. One thing in which they all invest a great deal is making themselves accessible to students, both physically and psychologically. This means that relationships with students are based on respect (Wayne, Charles, Andrea). The participants think "the door should always be open" (Phil:2), and they encourage the students to take advantage of this availability. They pass out sign up sheets for appointments to prod the reluctant students. They visit the TAs' discussion sections for the large introductory courses. They get to class early and stay late. They learn the names of the students (even when the class has 200 or 300 or 500 students). They greet students outside of class and encourage the students to do the same to them. They "read teaching evaluations and spend a fair amount of time talking to students, very

carefully, to learn what they're having trouble with and what they're bringing to class" (Carl:15).

And they find that it's reciprocal. "When you pay attention, want to know who the students are. . . . They want to make themselves known . . . they come up to me, stop me on campus or in town" (Shellie:6). The students seem "hungry for adult talk" and attention (David:2). The majority of participants commented on "how often the students will say "you know, you're the only professor who ever talked to me" (Peter:10).

Finally, when they've done all the other things, there is a time to let go and leave room for what emerges from the interaction. The participants find that, when they are organized and open to the students, they're "not obligated to cover the whole lesson plan every class" (Carl:5). There's a sense of being "freed from the content to develop ideas and learnings" (Wayne:8). Often, students "open up avenues I hadn't thought of, planned on" (David:2). The source of their authority as teachers seems to be in the relationships they develop with and between the students and the content.

And there's a recognition that they are only one piece of the process. "I have to combat wanting absolute control over the class . . . to let go of the outcome of it. I do my job, I can't do the students' job too" (Shellie:10).

c. Beliefs and Values

The participants express strong beliefs about what is right and about the roles and standards for which they're responsible, very similar across discipline and time. The beliefs are based in the core value of respect: for learning, for human potential, for the possibilities inherent in the process of teaching and learning when it goes well. When this value is violated, by students or the institution, they are angry and disappointed, and inclined to feel it personally.

The primary responsibility of faculty and the institution is to the growth and well being of the student. Most teaching dilemmas involve conflicts related to this: how to give students the personal attention they especially need as freshmen when the university places them in large intro courses (Andrea), how to make a full learning experience possible for students who are working a large number of hours a week to pay their way (Andrea), how to accommodate the wide diversity of student preparation and motivation in a way that serves everyone well (David, Charles), how to be both a helper and a disciplinarian (Phil) or making sure that there is psychological room for all the students in a class (Darrell, Shellie).

In addition, the teacher is responsible for fully knowing their content. "Teaching presupposes that you have something to say and that you know something" (Mark:1).

The teacher is responsible for establishing respect for learning and for all participants in the classroom, to "ensure a voice for everyone, so no one, including myself, intimidates or silences another" (Shellie:14). It is important to "have a control in the classroom that allows for the best kind of discussion" (Andrea:3). The respect has to be two-way, where "you learn to see the student as a full participant in the process" (Darrell:9).

But while it's the teacher's "responsibility to prepare and show up and mediate whatever energy or content has to come through" (Shellie:11), the teacher is only half the process. Doing the work is the students' responsibility, and "you can't <u>give</u> learning to anyone" (Wayne:11). "I have no responsibility to entertain those who don't want to be there. I am responsible to do as much as possible to be sure there's something substantive there for everyone who wants to access the learning" (Wayne:12). "I know how to make my courses have 500 students. Make it not very rigorous. But I can't feel satisfied doing that. . . . I just couldn't live with myself" (Peter:18)

d. Teaching Means

Teaching means sharing the most important things in the world--the opportunity for learning and creating, and using the best of who they are. Even in large classes, teaching is a personal experience, drawing on the teacher's person and talents (Jerry). Teaching, the interaction of self, learners and content, creates the opportunity "to

have ideas that I haven't written--and giving myself the freedom to follow those is liberating" (Wayne:9). There is the joy in watching as "you get them hooked and then all of a sudden you can't keep up with them" (Darrell:6).

This sense of caring and personal responsibility and relationship is evident in the metaphors for teaching used or implied by the participants. There is the guide, who asks "what do I have to say that's of lasting value?," and then uses the answers to identify signposts and special things along the journey through their content (Mark, Charles). There is the farmer, who is aware of planting a seed that may have immediate fruit, or may flower far in the future (Darrell, Shellie, Andrea). There is the conductor of the orchestra or jazz band, providing the structure for a large improvisational piece created by teacher and students (Jack). And there is the parent, mother or father, who is "concerned about the students' welfare, worried that they should do well, ready to forgive them for the little faults they have" (Charles:9, Shellie, David). Often these metaphors co-exist within a single person.

The common factor seems to be "love"--of people, of content, of learning. As it was summed up by one participant, reflecting on an evening spent with some administrators: "I was thinking about the differences between their lives and mine. And I thought, they deal in

anger . . . and hate. With the teaching, my life has been a life where you deal in love in some ways" (Shellie:2).

2. How Understandings of Teaching Developed

This question asked about how they came to be a teacher, any significant experiences that shaped their learning about and understanding of teaching, and the differences (if any) in how they think about teaching now versus earlier in their careers or at the time they received the Distinguished Teaching Award. They talked about their entry into teaching as a profession, the stimuli to learning about themselves as teachers and the things that they learned that made a significant contribution to their teaching.

a. Entry into Teaching

Becoming a teacher at all had an element of chance for most. With the exception of two participants who knew very early, due to the impact of family and/or significant teachers in their own past, that they wanted to teach, entry into teaching was a chance occurrence. For example, they were graduate students given the chance to TA or tutor, or someone saw something in them and placed them in a position to teach, or the only close and affordable college was a teacher's college.

They were, however, unanimous in their assessment of their first experiences in teaching: "I don't think I chose teaching. Teaching chose me." (Peter:13). They were

"captured by the power and excitement of the interaction" (Jack:10). "The reaction of the students" (Charles:14), the discovery that they "found it fun" (Carl:10) and that "it used a lot of my personal talents" (Jack:14) and inclinations was enough to set them on their career path.

b. Stimuli to Learning

To a large degree, learning about teaching and about themselves as teachers came from paying attention to the students and paying attention to their own experience of the students, the process and themselves, both faces of a reflective process. Participants mentioned talking with students, paying attention to the things with which they had problems and the factors that impact them outside of class. Weekly meetings held with their TAs were a source of learning, as were the few opportunities to meet with other faculty interested in teaching during workshops. The exception to this pattern of learning about teaching was the participant who, as a professor and as department chairperson, "worked at teaching . . . with a Center for Teaching Improvement and everybody in the department got involved" (Peter:13). As chairperson, he "demanded that when we conducted faculty searches that we not only asked them to give us a research presentation . . . (but) give us a lecture on a topic like you would for a class" (Peter:14). In this instance, it was important that there be opportunities for the group to learn about and improve their teaching.

c. The Learnings

Sometimes the learnings were experienced as refinements of basic understandings, sometimes as "a-ha" experiences that made significant immediate impacts. There were a number of practical learnings, not expressed as a shift in perspective, but as gradual refinements of what they already knew, enabling them to "give it better vocabulary and make it more accessible to self and others" (Jack:15). These learnings included things like being honest with students about their aptitude and possibilities in a field, keeping in touch very directly with the students, increasing the amount of in-class involvement of students, using past student difficulties as guides to anticipate future problems, and making what you're doing relevant to the student's frame of reference. There was also the realization for quite a few that teaching large groups draws upon most of the same principles as teaching small groups, and that there's always going to be something new to learn.

Other learnings represented a shift in orientation for the participant. There are four identifiable shifts in this category, all attitudinal in nature. The first is a shift in attitude from hostility, impatience and intolerance for less than ideal student behavior to an attitude of "withholding judgement, because you don't know what else is going on in their lives" (Charles, Darrell, Phil). There was the realization that "students are people

too, you won't always know when you're reaching them" (Joyce:7). From the latter perspective, there is a much greater appreciation of the complexity of teaching and learning and of the ambiguities inherent in that complexity.

The second shift is from role to person. It involves the insight that you can't isolate yourself from the process, that teaching isn't just assuming a role. They learned to incorporate themselves and their talents, to free themselves to use the immediate experience to create learning, to "focus on what I love to do, so I can make my best contribution" (Mark, Wayne, Shellie).

In a related shift, several (Andrea, Darrell, Shellie, Peter) expressed some struggle with their experience of the source of their authority as teachers. While there was security in deriving authority from the expert role, they found themselves becoming less and less comfortable with this. Over time, they shifted to a more internally derived definition of their authority.

Here authority comes not only from the institutional role of expert, but from their conviction that learning is a sacred process, their knowledge, and their ability to build a relationship that left room for students as well as content in the process of teaching. It is more productive and respectful to provide structured freedom for students than to concentrate on control. When they occasionally find themselves telling a student "because I said so . . .

[they are] horrified" (Peter:15), though they do not hesitate to set limits if a student's behavior is disrespectful or harmful to themselves, the student or others.

The fourth shift involves dimensions of moving from a teacher driven/content driven orientation to a relationship-driven orientation. There was the movement from being reinforced by having the students dependent upon them to being reinforced by seeing the students empowered to learn on their own (Andrea). There was movement from approaching teaching with a rigid fixation on the syllabus to being flexible, allowing for things in the lives of the students as well as learning that occurred within the class (Darrell). And there was movement from caring more about the facts and the amount of information covered to caring more about students' application of the content to their lives, epitomized by the insight that learning requires engagement (Joyce). Lecture wasn't enough--"yes, you (students) have to show up, but apparently you have to play the game as well" (Joyce:4).

All of these shifts, as well as some of the smaller learnings, have in common the movement from a simpler, more independent variable conception of teaching to an orientation more aware of complexity and interdependent relationships. While all of these shifts in understanding of the teaching enterprise were not expressed by all the participants (some expressed no experience of a shift in

understanding at all), the current orientation of all of the participants is congruent with the more complex interaction driven perspectives on teaching.

It might also be said that, to a greater or lesser degree, the participants are involved in constructing/ reconstructing themselves as teachers. They are looking for learning and work at integrating their learnings into their perspectives and response repertoires. And the more potent learnings require new views of the self as well as of teaching.

3. <u>What Motivates Teaching</u>

Why do they continue to teach? What rewards and sustains their efforts? Their motivation appears to be internally driven and externally focused. The simplest answer to the question is that they are about more than themselves, though they are part of the process. They provide lessons in decency and integrity.

Their motivation has three major sources: the students as developing human beings in a relationship with them; a sense of responsibility, an internal obligation to contribute to the world or to repay the investment that their own good teachers made in them; and, personal benefits in terms of being able to use their personal talents and have their own learning challenged.

a. The Students

In the words of one participant, "if you want to pin it down to one factor, I would say it's the satisfaction of working with people" (Phil:5). "It's the human contact that's the motivator" (Peter:16). "You'd better like the students or you shouldn't be in it" (Jerry:15). This satisfaction appears to come from two sources: the chance to see an impact on student development and the enjoyment of the human contact, the relationships themselves.

Investing in growth is rewarding for these people. "I like working with people, seeing them develop, even if just in the limited sense of learning what you're presenting" (Jerry:9). That development also takes the form of seeing "them get a-has, change their self-esteem and level of confidence" (Jack:18), "seeing something take shape that wasn't there before" (Joyce:9), knowing that "I made a difference to students, that they wouldn't have thought about some things . . ." (David:6), pride in "seeing what jobs some of the students got" (Phil:4), or "the most valuable thing they return to me - that sense that they are now on their own, that they can handle it from here" (Andrea:10).

The participants also find the relationships, the process itself, tremendously rewarding. What's good about teaching is the opportunity for personal engagement with both the people and the content, the chance to "share the fun of learning" (Peter:20), to "share something I really

love" (Andrea:2). "The fun is in the relationship" (Andrea:2) because there's "this give and take. . . . I'm not just an authority. . . . We're both learning and discovering" (Andrea:1). In these relationships, "I feel appreciated and respected . . . and to get that respect I have to do the best I can" (Wayne:1). Teaching is a life where you most often "deal in love" (Shellie:2) and can have "the phenomenal feeling of realizing that you get to touch eternity" (Wayne:12).

b. A Sense of Responsibility

A sense of responsibility to students, to themselves and to mentors is perhaps a correlate of or pre-requisite for taking joy in the growth of others. All experience an obligation, an emotional responsibility, to make a constructive contribution to the lives of those around them. There's a sense of obligation in contractual terms--"people are paying good money for this" (Carl:10). There's a sense of justice at work - "I have the feeling . . . that they (students) very often feel as if their instructors are just indifferent, that they're getting a second rate education here. . . . So when they're dealing with me, I try to make them appreciate the fact that I see them as first class citizens" (Charles:3).

There's a sense of personal pride, personal standards and integrity--"I take pride in what I do. If I do a lousy job, I've demeaned myself" (Carl:10). "I'm going to retire and know that I do my best, not many teachers could have

done it as well" (David:19). Again, the message is that, for these people, teaching is a very personal act.

And they want to do for others what their best teachers did for them, because they understand the power and possibilities in that. "It's payback . . . somebody cared, because I'm here, but not many people care. And if somebody cares just a little bit, possibly to save somebody. . . . That's why I teach. That's what I get out of it" (Darrell:7).

This sense of personal responsibility and commitment to justice sustains them in the absence of immediately visible impacts on students, the primary source of motivation. They clearly believe that this is a long-term investment, and have faith and confidence that they do make a difference. In their experience, there are plenty of cases where "someone will come back years later and say this or that was going on, but it (your class) helped me in this or that way" (Shellie:10). "You think nothing's happened, then . . . you can't make a decision on anybody until the results are in. . . . The results might not be in till after I'm dead" (Darrell:8). And that's OK. "It's like planting a seed" (Darrell:1).

c. Personal Benefits

Personal benefits contains two general categories: the chance to capitalize on their own personal talents and inclinations, and the opportunity for learning. These are

still viewed, however, within the context of their contribution to the students' experience.

For many reasons, they experience teaching as a good fit with who they are. They have personal interest in the content. Teaching makes it possible to spend time engaged with the content, learning more about it and sharing it with others. The job provides "the opportunity to create and think about ideas, and have flexibility and control over how to do things" (Joyce:11).

They recognize a liking for attention - "I'm the star. . . . I work very hard to produce star quality performances every day" (Mark:22). Many cite a talent and predilection for organization, a skill which is also repeatedly cited as critical to good teaching. They "like problem-solving, creating order out of chaos" (Andrea:11).

And several were very honest about their motivation to excel in teaching. Among other things, "I'm pretty sure I'm a better teacher than I am a researcher. . . . I feel I can make more of a contribution to the program by being a good teacher than by being an indifferent researcher, than by being a mediocre researcher and a mediocre teacher" (Carl:11).

As a group, participants place a high value on learning, their own learning as well as students' learning. And teaching affords the opportunity to learn, whether in interaction with other faculty teaching the same course or in interaction with the students, even in introductory

courses. "Maybe I get more challenging questions from the general class, because they're naive enough to just pop up with crazy things that maybe I've never even thought of before" (Peter:17). "Teaching keeps me alert and awake, aware of my own learning process" (Andrea:11), so "I learn something every time. . . . I can reflect on it (content) really differently" (Andrea:2).

They find that teaching "helps me to organize my own knowledge--the best way to learn something is to teach it" (Carl:10). Especially at the introductory level, students often "ask questions you'd never dream of . . . make you think about it a bit differently" (Joyce:9). As learners, they appreciate the variety of challenges: "every year, a fresh batch of students. It's pretty hard to get bored" (Phil:5) and "particularly when you have to teach in a broad area like mine. . . . You have to keep aware of what's happening in a lot of areas . . . which I'm happy about" (Peter:16).

One thing they wish for is more opportunity and support for sharing this learning with others. "Burnout is a concern--you need time to recharge" (Andrea:14). The chance to choose a career track that emphasized either research or teaching (Phil, Wayne) and to get together to talk with people who enjoy teaching at university sponsored events (Joyce) would be appreciated.

4. What the Distinguished Teaching Award Means

The participants were asked why the award was important (or not) to you, what the award represents, and if it affected your experience of being a teacher. In response to these questions, they spoke of what the award meant to them personally, of their experience of being a recognized teacher in the context of a research university and of what the award represents, from the perspective of one who has participated in the selection process.

a. Personal Meaning

Receiving the award was experienced as an honor by all, very satisfying and exciting, in large part because the original nominations are done by the "students, who have to go out of their way" (Shellie:2) to nominate and support you. The award demonstrates publicly the appreciation of the students, "the people you're trying to reach" (Joyce:14) and it validates your efforts. Its meaning is enhanced by the fact that it requires the administration to publicly recognize and talk about teaching, which is "such a rare event" (Charles:23). When this happens, "even if the award is mostly lipservice to teaching, it's nice" (Joyce:15) and people "take you a little more seriously" (Andrea:15).

Bottom line, it has little impact on their experience of themselves as teachers. "I have to say that the DTA has meant much to me . . . [but] I don't teach to win prizes. . . . I would say the DTA has not played very much of a role

in my life . . . hasn't made me a good teacher, hasn't given me a goal" (David:13-14).

For all, the award "was frosting, but I didn't need it" (Jerry:11). External validation of effort is nice, but not necessary, a "wonderful personal gift to me" (Wayne:17), but not one that changes much. "Teaching itself is an affirming experience" (Shellie:1), and "if you're doing what you think is right, you don't change because of externals" (Jerry:11).

For this group, the Distinguished Teaching Award is a reward, not a motivator. They don't expect it, given the 60 plus nominations per year. And its receipt tended to highlight their experience as committed teachers in a research university context.

b. A Teacher in a Research University

The primary theme here is summed up very well by one participant. "If you'd rather teach (than do research), you're the weird one" (Joyce:15). The participants did not see much in the university context that whole heartedly supported their commitment to teaching, with the exception of the representatives from the chemistry and entomology departments.

The university is experienced as a place that "is institutionally set up in such a way that there's really no reward (for good teaching). Sometimes I feel as if the university, the whole culture of the university, is constructed in such a way that you shouldn't be doing that

. . . that you should just be blowing off students" (Charles:4).

And they judge that many of their colleagues do just that. "I have a feeling, from reading course evaluations and talking to a lot of kids, that they very often feel that their instructors are just indifferent" (Charles:3) and "I saw professors who have three hours per week in their office . . . it always made me sad to see that door close with just a few office hours" (Phil:16).

The treatment of the Distinguished Teaching Award by the university communicates that support for teaching is less than full. "Three DTAs a year is not very much . . . and we don't reward good advising at all" (Andrea:13). "The university never does enough to make known who the DTA recipients are" (Joyce:14), "students don't get informed about past winners, it's not capitalized upon, to reinforce any commitment to the classroom" (Andrea:15). While a bulletin board featuring one School's DTA winners was highlighted during a visit by a national accrediting association, it was also the first display to be dismantled. Three years later, some of the other displays are still there (Jack). And, the DTA is still "less money than the research award, without the time off to develop" (Joyce:15).

The reactions of individual colleagues are often no more supportive. "They still tend to think, well, that isn't scholarship" (Andrea:15), it just means "oh, you must

know how to entertain students . . . most frequently heard from the least effective teachers" (Wayne:17). For some participants, what was "most mystifying and not anticipated was the reaction of my colleagues. There was no official department recognition . . . I thought this would support my bid for tenure, but a friend offered me his condolences--and warned that this would hurt me professionally" (Wayne:16).

Although overall the experience is one of being out of sync with the primary university values, there were some decade related trends. The participants who received the DTA in the first decade reported that it <u>was</u> a professional asset to them in terms of their career and tenure. Those who received their awards during the middle decade were the most vocal about the lack of support and respect accorded them. The most recent recipients, while still feeling less than fully appreciated by the institution, join their earlier colleagues in saying that "up until recently, good teaching did not matter . . . but I think that's changed significantly. Mary Deane Sorcinelli at the Center for Teaching has a halo effect for teaching" (Wayne:17). These differences in experience of the context also appear in the responses to the survey (item 22), and may mirror the development of the university from a fledgling to a full research university, with the current pressures to attend to the quality of teaching.

c. Selection of Distinguished Teaching Award Winners

The DTA recipients are all involved with the screening and selection of at least the next year's winners, with many staying on the committee for a number of years. From their perspective, they had some comments on who wins the award and why. And, with the exception of a few years during the middle decade, they see university politics as playing a small role in the selection process.

Political considerations are reflected in observations that "there are so many good teachers that we tend to give awards to those who don't make waves" (Andrea:15). And since awards tend to go to those who teach at least some large introductory courses, which are "important to the departments and unpopular to teach. . . . It is reasonable to be rewarded for doing it well" (Carl:12).

The fact that student nominations begin the selection process also influences who wins. There are "many who are superb teachers in their own right, but don't teach large enough numbers to get nominated" (Carl:11). And, "it seems a lot of winners come from deadly fields. Fields that students thought were going to be horrible, then this character comes in and gets them through" (Mark:7).

Even given those factors, the participants don't see the award as solely a popularity contest. The award process is "very competitive" (Andrea:15) and "having seen the process, I was aghast I'd won" (Jack:22). The committee looks for more than entertainment value. What

makes a difference is a sense that "every year, this person has an impact on people's lives in some way. It's not just good performance in the classroom" (Shellie:3). "The students (have to) say there's a sense of a personal bond that transcends kind of a performer-audience type of thing" (Shellie:5). The Distinguished Teaching Award reflects a teacher who has "people look back years later and say, this one course made a difference . . . it changed me, how I looked at things, how I felt about myself" (Shellie:3). There is an effort to give the award to people who make a difference over and beyond the effective communication of the content. People for whom teaching is the fullest expression of who they are, and who they want to be.

C. Summary

In reviewing the results of the survey and the interviews of a random sample of the surveyed population, several things stand out. First, there is a high degree of congruence between the responses to the survey and the responses of the smaller sample during the interview. Both provide a picture of people who are motivated by something beyond their own achievements and gains, who view teaching as a complex, interdependent relationship oriented process with many ambiguities, and who are able to find satisfaction in that process.

Secondly, there are more similarities across the lines of discipline, sex and decade of award than there are

differences. This suggests that good teachers share a common core of personal perspectives that contribute to their effectiveness.

Thirdly, both the responses to the survey and the responses during the interview phase that dealt with teaching behaviors are consistent with all the literature on effective teaching (Chickering & Gamson, 1991; Eble, 1988; McKeachie, Pintrich, Lin, & Smith, 1986). From their responses, it appears that these teachers engage in the behaviors that have been identified as being more effective in involving students in learning.

Lastly, in the category of personal orientation and meanings that is of primary concern to this study, there are some common factors among the respondents: There are no pessimists among the respondents. Although there were aspects of the job and context that they found discouraging, they were able to keep their sights on the larger picture. They operate from the assumption that teaching is something inherently worth doing, and the fact that they get personal learning and the chance to share their enthusiasm is a nice side benefit. They are able to make long term investments, with no demand that they see the returns in all cases.

They all find relationships, whether person to person or person to content, to be exciting. They understand the goal of the entire enterprise of teaching and learning to be one of making connections, of building relationships

that will change all of the parties involved. In this context, they understand the value of paying attention to the students, of entering their world, of exercising high levels of empathy.

Learning is a high value, and they can learn from their experience, where ever they find themselves. Contrary to popular wisdom, they have found that it is possible to learn more about the content even at the introductory level. Teaching 101 is not an intellectually vacant experience.

They have courage and personal integrity. They accept that disappointments are going to be part of the process, and as long as they know that they have done the best that they could, they can live with those. More, they can process the feedback to try to prevent that from happening again.

In the end, a teacher is who they are. That identity pervades all aspects of their lives. It is not just a role that they assume in the classroom. Teaching is indeed a personal experience.

CHAPTER V

CONCLUSIONS

A. Summary Conclusions

To give voice to good teachers, the voice that is often missing from research on teaching, the study asked how a sample of Distinguished Teaching Award recipients understand teaching, how they developed their understandings, what motivates them and what meaning the Award had for them. A concurrent question, as the emergent paradigm for interpreting the world identifies places to look for understandings that have been elusive in the positivist paradigm, was whether or not the Distinguished Teaching Award recipients' definitions of teaching differed according to the time frame within which they won, in ways that corresponded to the emergence of a new paradigm. The findings both confirm much of what is already known about good teaching and hint at directions that are worthy of more attention.

1. The Expected and the Unexpected

In terms of teaching behaviors and principles, there are no surprises. The respondents indicate doing the things that are characteristic of effective teachers, according to the vast literature of the process-product paradigm. They do detailed planning and organization of the content and activities on an on-going basis, they

communicate positive regard for the students, they encourage student participation and provide timely feedback and reinforcements to the students (Guskey, 1988). They show evidence of applying the seven principles for good practice in undergraduate education: encouraging student-faculty contact, encouraging cooperation among student, encouraging active learning, giving prompt feedback, emphasizing time on task, communicating high expectations and respecting diverse talents and ways of learning (Chickering & Gamson, 1991).

Their emphasis on guiding by student feedback and incorporating methods for getting that feedback is congruent with classroom research (Angelo, 1991). This can also be viewed as a reflective process, in line with Schön's (1987) reflective practitioner. As a group, 75% of the survey respondents rate thinking about teaching and pedagogical problem-solving" as important activities in teaching. They speak of planning and preparation for teaching not only in terms of organizing the lecture goals and content, but also in terms of "what does the feedback tell me about what the students need from me?" and "what did I learn about my teaching, myself, my students that will influence how I think about the goals and content?" And they read the cues and fine-tune their process in mid-stream.

They are "skeptical of any one way to teach" (Carl:1), as is everyone who has ever tried to identify <u>one</u> superior

method (Eble, 1988; McKeachie, Pintrich, Smith, & Lin, 1986). Although not originally an explicit part of the questions asked, the context of their teaching - large group versus small group, undergraduate versus graduate, sciences versus humanities--emerged as a factor in their definition of the specific teaching goals and methods employed.

What is perhaps unexpected is that, for this group of good teachers, the ways in which they think about teaching's goals are very consistent across disciplines, sex, size of class and time. There are far more similarities than differences, though whether this is due to the small size of the sample or the research university context within which they have spent their professional lives requires further investigation.

2. Dispelling Myths About Teaching and Teaching

There are numerous stereotypes, or myths, about university teachers and teaching. Some are cited in the college teaching literature (Eble, 1988), while others pop up in faculty meetings, the media and the state legislatures during the recurrent educational reform debates. Perhaps not surprisingly, the Distinguished Teaching Award recipients do much to refute at least a few of these commonly heard stereotypes, such as:

"Getting comfortable is the goal" or "College teachers don't really work at teaching." The public perception is

that university teachers are underworked (and overpaid). They only teach for six to nine hours a week, using the same lectures over and over. While some research indicates that experienced teachers (which would include the entire population of Distinguished Teaching Award recipients) are likely to settle into comfortable patterns and rarely refine these based on classroom experience (Levinson-Rose & Menges, 1979), this group communicates that they are attending to their experience, reflecting, refining and learning all the time. They work at teaching, think about teaching and are highly unlikely to do exactly the same thing twice.

"Teaching freshmen and/or undergraduates is not intellectually stimulating." Quite the contrary for this group. 75% report that repetitious teaching assignments are <u>not</u> a source of stress. 70% rank the opportunity for insight into their content as one of the top four motivators for teaching. They report that, in many ways, freshmen ask the most challenging and interesting questions. It is not an infrequent experience for this group to leave a class with a different perspective on some content. There is always learning to be done about their teaching and about the students. Teaching at the undergraduate level <u>is</u> an intellectual activity, different from teaching graduate students and doing research, but not intellectually unrewarding.

"Teaching awards are given on the basis of popularity. Popular teachers are non-substantive entertainers with low standards for student achievement." While it is true that students rate the "ability to stimulate interest in the course and its subject matter" as more important to good teaching than do faculty (Feldman, 1988), this dimension is important only to the extent that it supports other criteria for good teaching. An analysis of the match between student and faculty criteria for good teaching (Feldman, 1988) reveals quite similar student and faculty opinions about what is most important. Both students and faculty rank teacher sensitivity to and concern with class level and progress, teacher preparation and organization, teacher knowledge of the subject, teacher enthusiasm, clarity and understandableness, and teacher availability and helpfulness among the top ten characteristics of good teachers.

The faculty in this sample emphasize these same characteristics when speaking of their own teaching and of what they look for in the nominees for the Distinguished Teaching Award. The Distinguished Teaching Award committee looks for evidence of a lasting impact on students' lives and learning that goes beyond entertainment (Allen, Wayne, Shellie, Peter).

In addition, several spoke of the personal conflicts experienced by the frequent discrepancy between student preparation and their own standards for teaching and

student achievement. Both factors were among the top three most significant sources of stress for the survey respondents as well. While stimulating student interest in the content and being interesting, sometimes even entertaining (Charles) presenters in order to reach as many students as possible were among their goals as teachers, they were aware of the danger of going too far. The sacrifice of rigor for popularity was not one that was considered acceptable, and was a balance that was consciously and frequently checked.

"Teachers are born, not made." All of the participants talked about <u>learning</u> to be teachers. When faced with their first class, they describe having no concrete idea about what to do, how to do it or what to expect. Fewer than 18% of the sample had any preparation or training for teaching. Imitation, or "the monkey method" (Peter), was the most common way of getting started. They don't report any innate knowledge that made them naturals; indeed, several were very surprised to discover that they enjoyed the experience.

Once in the experience, though, they do report becoming hooked. They invested in a process of on-going learning about teaching, and about themselves as teachers. 75% rated thinking about teaching and pedagogical problem-solving as important or very important activities in their teaching.

This learning included not only the search for new, more effective methods, but also on-going discoveries about what teaching is and about who they are as teachers. They can identify moments when they re-constructed their understanding of teaching and of themselves as teachers. For example, "early in my career I was recognized for being a brilliant, entertaining lecturer. But I know now, I wasn't a teacher" (David).

Nor do they communicate that they necessarily expect their current understanding to be the last word on teaching, for themselves or for anyone else. They will need to continuously invest in making sense out of what they experience in the dynamics of teacher, student and content interaction, which will lead to new learnings about what works and what doesn't, and sometimes to the construction of entirely new definitions for themselves of what it is they're doing.

3. Teaching As a Constructivist

In this case, at least, teaching represents a creative act. The core of teaching, how the participants visualize what it is that they're trying to accomplish, involves making connections in order to facilitate meaning-making (their own included), within the context of a four way relationship between the students, the content, the context and the teacher. This core is the same whether the context is undergraduate or graduate teaching, large group or small

group. The context influences how and to what depth they promote meaning-making, but not their basic understanding of what they are doing.

Their job is to bring the four components together to create something that wasn't there before--in the students, in themselves, and sometimes (more frequently in the humanities and the social sciences than in the physical sciences) in the content as well. Those from the natural sciences made greater distinctions between introductory and upper-level graduate teaching than did those in the humanities and social sciences. At the introductory level, they are more concerned with conveying basic facts and principles than they are at the upper levels. While not expecting that they will necessarily learn more about the content (though that can happen), they do expect that the students will come to see the world differently as a result of the process.

More than 70% said that helping students to see the world in new ways was an important part of their role as teacher. When this happens, there is excitement. They know it and the students know it. In some ways, this experience is both their motivation and their reward.

In terms of the meaning and constructed understanding of teaching, they go beyond a process-product understanding. The articulation, explicit or implied, of teaching as a constructivist relationship helps to add depth to the understanding of what they do. Teaching

decisions are based on "what will help me to help us (students and teacher) to construct a meaningful (useful, transferable) learning experience?" They are conscious of building something, and of the fact that, given the same ingredients, they may not build the same thing every time.

4. The Teaching Relationship: Appropriate Distancing

The relationship between the teacher and the students creates a large part of the context within which learning and meaning-making occur. It is within this primary relationship that the process of building relationships between students and content takes place. How do these Distinguished Teachers define that relationship?

While the participants make it clear that getting to know students is important, and that they will often go out of their way to help or support a particular student's efforts to learn, this doesn't mean being close personal friends with many students. They seem to define what might be termed an "appropriate distance" in their relationships with students. The goal of their relationship is to make an intellectual impact, to involve students in the excitement of learning, not as a disembodied experience, but as a process that may ultimately affect the student's experience of themselves and their world in personally meaningful ways.

With this goal in mind, it is important to be available to students physically and psychologically, to

not be so distant that the students aren't able to "see that they can be me someday" (Darrell), intellectually. Yet at the same time, in a respectful way, they communicate that someday is not here yet. Their role is one of mentor or guide or parent, whose job it is to foster the growth of the students, with love and caring and attention, but with the eye on the intellect.

This can be seen in the survey responses as well as in the interviews. Only 41% rated forming relationships with students as individuals or as groups as being a very high source of satisfaction, while seeing students begin to understand was greatly satisfying for 79%. They want to connect with students, to be able to place names with faces, to know what students are concerned about (49% rate meeting with students outside of class as a very important teaching activity), because that will enable them to be better prepared to facilitate connections between the students and the content. The relationships are not impersonal, can be very caring and warm, and lasting, but the teachers seem to have defined a distance that is appropriate for the goal of learning.

5. Faculty Development: Individual Paradigm Shifts

The constructivist orientation to understanding the process and relationships in teaching is more congruent with the emergent paradigm view of the world than with the process-product set of the positivists. It is also

fundamental to social-cognitive and epistemological developmental theory, as proposed by Perry (1970), Baxter Magolda (1992), and Kitchener and King (1990, 1994).

One question was whether this orientation was more pronounced among the more recent Award recipients, perhaps reflecting the impact of larger social and disciplinary paradigm shifts. Based on the findings of this study, the conclusion is that there is no generation gap, no differences in orientation that could be tied to time frame. What was seen was individual developmental shifts, not disciplinary or generation based, shifts that are congruent with social-cognitive and epistemological developmental theory.

Eight of the fourteen participants in the interview phase spoke of a change in their perspective on their relationship to students and teaching. All of the specific shifts in perspective described share common elements: movement from a position where the components of the process are relatively independent variables to be impacted by the authority of the teacher role to a position where the full complexity and interdependence of all the variables is appreciated and accepted.

While all the social-cognitive and epistemological development schema share those general characteristics, the specific developmental pattern proposed by Norbert Ralph (1973, 1978) is of special interest. Based on interview data from a large sample of faculty at various career

stages, he adapted the existing developmental scales to describe possible stages of faculty development as teachers. Using his descriptive scale, the participants in this study can be seen as making shifts from stage 2/stage 3 to stage 4/stage 5 in their understanding of themselves in relation to teaching.

A Stage 2 perspective is one in which the teacher is aware of the complexities in teaching, but still certain that clear right actions and procedures exist, based on an external authority (the institution and their role). The goal of teaching is the acquisition of facts by students, though more than one method for achieving that goal exists. The responsibility of the teacher is to find the right method.

A Stage 3 perspective is transitional. The individual is more aware of his/her choices and limitations and more aware of the inner motivations and the diversity of the students. He/she attempts to tap those motivations to create conditions where students can actively learn, yet is not fully comfortable with the uncertainty of this new role. This may lead to being excessively conscientious or permissive.

A Stage 4 perspective enables the teacher to develop a personal style of functioning the frees him/her from some of the role conflicts and excessive conscientiousness of Stage 3. The teacher has come to understand teaching as a two way process of learning, and sees learning as the

ability to synthesize rather than just acquire facts. He/she values and enjoys students more fully, but is also more comfortable with setting limits and structure for the teaching relationship.

A Stage 5 perspective builds on Stage 4. The teacher has a more clearly articulated position, or educational philosophy, which guides his/her decisions. The development of student's values and thinking is a more explicit part of teaching. They have a wider tolerance and appreciation for the range of students and the complexity of helping the diverse population to learn. Because he/she has a clearly articulated position, it is possible to accept and function effectively within the inherent complexity and contradictions of the social process called teaching.

Stage 2 and Stage 3 capture the essence of the starting points for the shifts in perspective that emerged from the interviews. The participants expressed beginning their careers with a great deal of impatience and lack of tolerance for students who didn't fit the image of the serious student, with a sense that there were a relatively few appropriate teacher methods and role functions, with an understanding of their authority that was rooted in the institutional designation of professor and in their content expertise, and with the perspective that teaching and learning was teacher driven and that it was up to them to make it happen.

Stage 4 and Stage 5 capture the direction of the shifts described. With experience, participants came to understand the requirement for tolerance of a wide range of students and student behavior, linked to a growing appreciation of the dynamics of motivation and personal experiences. They came to understand that they, as a person, were an integral part of teaching, and that they were free to incorporate a wide variety of methods and role functions in their teacher. This understanding is closely linked to the understanding of their authority as being derived from their values, their knowledge and their commitment to developing a constructive experience for all students. And they express ending up comfortable with, or at least tolerant of, the complexities and uncertainties of practice, thus being open to a more student/relationship driven orientation to the teaching process.

Those who do not give a clear indication of possible shifts in perspective appear to understand teaching from a stage 4 or stage 5 perspective. Although not proven, it may be hypothesized that the more complex stage of development would be more effective in the complex world of university teaching.

As well as individual shifts in perspective, the survey respondents and interview participants communicate their experiences of institutional shifts in attitude towards teaching over the 30 plus year span of the Distinguished Teaching Award. In their experience,

teaching was valued during the 1960s, and there was room for faculty who had a teaching emphasis. During the 1970s through the mid 1980s, teaching was not a respectable taste. In a research university eager to prove its worth there was little appreciation for those who might rather invest in teaching. There is support in the literature for their observation that good teachers who invest in students were seen by colleagues as having misguided goals during this time (Clark, 1987). From the mid 1980s to the present there is a cautious hope that things are changing. Politically at least, teaching is now a hot topic. Real recognition may follow.

It is of interest that the individual shifts in perspective appear to have occurred independently of the institutional valuing of their role as teachers. While it doesn't mean that the institution has no impact on individual development, it does appear to speak to the level of motivation of the individual.

That external reinforcements for teaching were not to be expected was seen as a given by all. The reinforcement and motivation for investing in teaching were located primarily at what might be termed a mission level of motivation (Carkhuff, 1984), where the motivation is to make a contribution to the larger social well-being ("to touch eternity"Wayne], "I teach because it has social value"), and the reinforcements are the opportunity to learn to do that better.

Congruent with the other developmental theorists cited, Carkhuff also views motivation as developing in stages that move from exclusive independent orientations to increasingly more inclusive and interdependent orientations. Though there is no evidence of a developmental shift on the part of the participants' motivational level, it is worth asking whether this factor is pre-requisite for or co-existent with the shift in stages of faculty development.

B. Implications and Directions

1. Implications of a Developmental Perspective

If the Distinguished Teaching Award recipients show evidence of stage 4/5 motivational and epistemological perspectives, an underlying logic from which they construct a context for teaching that is complex, interdependent and dynamic, then it implies that effective teaching may be partly a function of things that can't be taught. This doesn't mean, however, that shifts in developmental perspectives can't be learned, if the institution provides the appropriate balance between support and challenge (Kegan, 1982). This insight has implications for faculty development and teaching improvement programs.

First, however, the question of both the developmental aspect and its possible link to effective teaching must be investigated. In the case of Ralph's (1973) translation of

existing social-cognitive/epistemological developmental scales to capture patterns of faculty development as teachers, the research design was not longitudinal. Therefore, while able to plot positions expressed by the participants in the study, he cannot be sure of the developmental nature. The current study hints that the developmental position is a likely one, and that it should be investigated more specifically.

There is also no firm correlation between developmental stage and effectiveness as a teacher. The fact that the current sample of recognized good teachers all appear to be functioning at stage 4 or stage 5 is suggestive, but that is all. Research that is both longitudinal and that targets faculty from the range of teaching effectiveness ratings is required.

2. Implications of Participants' Definitions of Teaching

The fact that participants see teaching as making connections to facilitate meaning-making within the context of a four-way relationship suggests another line of inquiry as well. Influenced by the process-product positivist paradigm, researchers have looked for the source of good teaching in the teacher (characteristics, behaviors, quantity of response repertoire) and in the students (attributes, skills, learning styles).

These are important, but something is still missing. Perhaps we need to begin looking for the sources of good teaching and learning in the space inhabited by the teacher, the students, and the content. It is in that space that the teacher brings together those variables and elevates the interaction. It is the interaction that, in turn, creates the teacher and the students and the content.

APPENDIX A

COVER LETTER AND SURVEY

Dear :

I am a doctoral candidate in the Higher Education program of the School of Education at the University of Massachusetts, interested in the dynamics of effective teachers and effective teaching. While teaching methods and behaviors as well as the personality characteristics of effective teachers have been extensively studied, the literature indicates a lack of research that systematically investigates the interpretive frame of reference and thinking of effective teachers. In response to this deficit, my dissertation research involves an investigation of the ways in which the recipients of the University of Massachusetts Distinguished Teaching Award think about their teaching and their relationship to learners and learning.

The goal of my study is to sample the perspectives and thinking on teaching of the Award recipients to identify possible themes and patterns which can add to the current understanding of effective teaching. The study consists of two parts, a survey of all the recipients of the Award and in-depth interviews with a sub-sample.

I am requesting your participation, as a winner of the Distinguished Teaching Award, in the survey phase of my research. The survey is designed to gain descriptive data about the Award winners' backgrounds, activities related to teaching, and general thinking about some characteristics which have been identified in the literature on effective teaching as common to good teachers. The survey is primarily a checklist, though further comment upon any item would be very welcome. I estimate that it will take 15 to 30 minutes of your time to complete.

All results will be reported anonymously and in the aggregate. Summary results will be available to any participant who requests them.

Your participation in this study is entirely voluntary. I thank you in advance for your help. Please return the completed survey in the enclosed envelope by September 30, 1995. If you have any questions or concerns, I may be contacted at (H) 413-569-6903, (W) 413-747-6374 or by email at danderson@educ.umass.edu.

Sincerely,

Debra Decker Anderson

DISTINGUISHED TEACHING AWARD WINNERS
UNIVERSITY OF MASSACHUSETTS
1962 - 1995

This survey consists of three sections: background information about yourself as a teacher, items related to your teaching experiences and items related to your experience as a Distinguished Teaching Award recipient. For each item, please mark or fill in the appropriate blanks. If you would like to comment further on any item, use the back of the survey form or another sheet of paper. Any further input would be welcome.

When you are done, please return the survey to me in the enclosed envelope, by October 10, 1995.

If you have questions or would like a copy of the results of the survey, I may be contacted at

(H) 413-569-6903, (W) 413-747-6374

or (e-mail) danderson@educ.umass.edu. Thank you.

BACKGROUND INFORMATION

1. Current Employment Status

___ I am currently employed at UMass.
Rank:_____
School:_____
___ I retired from UMass. Year:_____

2. Discipline of doctorate or other terminal/highest degree:_____

3. Sex: ____Male ____Female

4. Year you were awarded the Distinguished Teaching Award:_____

5. Rank at the time you were awarded the DTA:

_____

6. Age at the time of award: _____

7. How many years had you been teaching at the time?

_____

8. At the time of the teaching award, what percentage of your time did you spend on the following?

_____% on general education/lower division/core courses
_____% on upper division/major courses
_____% on graduate courses

9. At the time of the award, was your teaching load

_____ Above average for your department
_____ Average for your department
_____ Below average for your department?

10. Have you ever been active in committees or associations (campus or professional) which are concerned with teaching?

___ Yes, I am currently involved in such an organization.

Name of organization:_____
___ Yes, I was previously involved.
___ No, I have never been involved.

11. Have you ever won any other award(s) or recognition for teaching?

___ No.
___ Yes. What recognition?_____
When?_____

12. On balance, how would you characterize your professional interests at present - equally divided between research and teaching or inclining more towards one than the other? (Check one.)

____ Heavily towards research
____ Both, lean towards research
____ Both, equal and complementary
____ Both, lean towards teaching
____ Heavily towards teaching
____ Other:_____

13. Overall, what percentage of your time do you currently spend on teaching? on research? on service?

____ % on teaching
____ % on research
____ % on service

14. Have you ever had any formal training in teaching? (Check all that apply.)

___ No
___ Training to be a TA during graduate school
___ Educational methods course
___ University sponsored teaching seminars or consultations
___ Workshops at professional conferences
___ Other: _____

ON TEACHING

15. Teaching encompasses a large number of activities. From your perspective, how important is the contribution of each of the following to the overall quality of your teaching?

1	2	3	4	5
not very important		moderately important		very important

___ Preparing for classes, assignments and exams
___ In-class teaching delivery
___ Grading of assignments/exams promptly
___ Meeting with students outside of class
___ Thinking about your teaching, pedagogical problem-solving
___ Trying to know as many students personally as possible
___ Other:_____

16. How satisfying do you find the following aspects of your teaching?

1	2	3	4	5
not very satisfying		moderately satisfying		great satisfaction

____ "Giving knowledge" to students
____ Public performance
____ Identifying, recruiting and guiding talented students into your field
____ Forming relationships with students as a group
____ Forming relationships with students as individuals
____ When students finally catch on and begin to understand something they couldn't previously
____ Seeing progress in students' learning
____ Students' visible interest in course materials, asking questions, increasing involvement
____ Students beginning to apply understanding
____ Getting students to look at things in new ways, new perspectives
____ Preparing students for a career
____ Other:_____

17. How stressful are the following aspects of your teaching?

1	2	3	4	5	N
not a source of stress		moderately stressful		great stress	doesn't apply

____ Evaluating student performance
____ Student evaluations
____ Lack of student curiosity/intellectual initiative
____ Dealing with poorly prepared students
____ Time for class preparation
____ Repetitious teaching assignments
____ Dealing with student complaints
____ Recognition of teaching efforts in terms of prestige
____ Recognition of teaching efforts in terms of salary
____ Lecturing
____ Preparing for new courses
____ Desire to satisfy own standards of teaching excellence
____ Teaching schedule (days of week, times of day)
____ Campus climate for teaching
____ Student failure to master course content

18. To what degree is each of the following items descriptive of the your role as a teacher?

1	2	3	4	5	N
not at all descriptive		moderately descriptive		very descriptive	doesn't apply

In teaching I am:
____ Transmitting to students facts and principles of the subject matter
____ Providing a role model for students
____ Helping students develop higher-order thinking skills
____ Preparing students for jobs/careers
____ Helping students to see the world in a new way, gain a new perspective
____ Helping students develop basic learning skills
____ Helping students to experience themselves as knowers and creators of knowledge
____ Fostering student development and personal growth
____ Other:_____

19. What, if anything, do you do to try and improve your teaching? [Please identify the five activities you most frequently do to enhance your teaching and rank them from 1 (most important) to 5 (of lesser importance)].

____ Not much
____ Try to make changes indicated by student evaluations
____ Read articles about teaching
____ Attend workshops, seminars on teaching
____ Talk to other faculty
____ Share and discuss syllabi
____ Have another faculty member observe class
____ Get help from a teaching consultant
____ Conduct informal research on student learning
____ Conduct formal research on student learning
____ Get grant to study some aspect of teaching
____ Publish papers on teaching
____ Attend national meetings on teaching
____ Experiment with new teaching strategies
____ Utilize newest technological teaching aids
____ Other: _____

20. In terms of <u>your own standards and objectives</u>, how satisfied are you with what you have been able to accomplish in your teaching?

____ 1. Not at all satisfied
____ 2.
____ 3. Satisfied
____ 4.
____ 5. Extremely satisfied

21. How would you rate your teaching in terms of:

	very low				very high
Your own personal enjoyment	1	2	3	4	5
Level of interest shown by the students	1	2	3	4	5
Level of performance shown by the students	1	2	3	4	5

TEACHING AWARDS AND REWARDS

22. The literature suggests that many institutions of higher education don't adequately support/reward teaching.

Do you agree? ___ Yes ___ No
Has that been your experience at UMass? ___ Yes ___ No
Within your School/department? ___ Yes ___ No
At other places you've taught? ___ Yes ___No ___NA

23. To what degree, does the Distinguished Teaching Award serve as an effective reward and motivator for focusing on quality teaching?

1	2	3	4	5
not at all		moderately		to a great degree

24. What has supported and motivated your commitment to teaching over time? [Check the four most applicable statements and rank order them from 1 (most) to 4 (least)]

___ Contact with students
___ The chance to impact students' development
___ The opportunity for learning more about teaching
___ The opportunity for insights into your content
___ The opportunity to master new content and to make it accessible to others
___ The opportunity to talk about teaching problems and insights with colleagues
___ Being a Distinguished Teaching Award recipient
___ Other: _____

_____.

25. Before receiving the Distinguished Teaching Award, were you ever (Check all that apply):

___ Asked for help/advice on teaching by a colleague within your department?
___ Asked for help/advice on teaching by a colleague in another department?
___ Asked by department chair/other administrator to "mentor" another faculty member?
___ Asked to share your perspective on teaching with others through such means as an article or seminar?
___ Offered extra support (emotional, time, resources) for your teaching commitment by your department chair or other administrator?
___ None of the above

26. After receiving the Distinguished Teaching Award, have you been (Check all that apply):

___ Asked for help/advice on teaching by a colleague within your department?
___ Asked for help/advice on teaching by a colleague in another department?
___ Asked by department chair/other administrator to "mentor" another faculty member?
___ Asked to share your perspective on teaching with others through such means as an article or seminar?
___ Offered extra support (emotional, time, resources) for your teaching commitment by your department chair or other administrator?
___ None of the above

27. If you haven't been, would you like to have been/to be called upon as a resource in efforts to improve teaching at UMass?

___ Yes
___ No

Thank you very much for your cooperation and help with this survey.

APPENDIX B

INTERVIEW GUIDE AND CONSENT FORM

I. What is teaching? Recipients' definitions of teaching, learning and their relationships to the processes of teaching.

What does it mean to be a teacher?

When you're teaching, how would you describe what it is that you're doing? The goals and the process?

Do you have "general principles" about teaching that guide your decisions about what you do in the classroom?

How much of what you do is a conscious decision?

How would you describe your relationship with:
your content? your students? the teaching process?

Is there a metaphor or analogy that captures it?

Is there anything else which you would want to say about teaching?

II. How did they come to their understandings of teaching?

How did you come to teach? To choose a teaching career?

Do you think about teaching differently now than you did earlier in your career? (Than when you won the award? if it's been 10 years or more since the award.) What's changed for you?

What made a difference or contributed to your development as a teacher?

III. What motivates the winners as teachers?

Why do you teach?

What sustains the effort? What do you get out of it?

IV. What meaning does the Distinguished Teaching Award have?

Was receiving a DTA important to you? Why?

What does the award represent - to you? your colleagues? - to the larger faculty?

How has it affected your experience of being a teacher?

V. Is there anything else you want to say about teaching?

WRITTEN CONSENT FOR INTERVIEW PARTICIPATION

PERSONAL MEANINGS OF TEACHING:
PERSPECTIVES OF DISTINGUISHED TEACHING AWARD WINNERS

You have been selected as one of the fourteen Distinguished Teaching Award winners whom I plan to interview during the second phase of my dissertation research on award winners' thinking about teaching. The interviews are intended to provide an opportunity to hear the specific voices of individual teachers as they explore the logic which guides their teaching, the meaning they construct for the process of teaching and their understanding of the relationships between themselves and their teaching.

I am requesting permission to audio-tape the interviews. I will later transcribe the interviews, either myself or through the services of a typist who will not be connected with the University and will not be given your name. Transcripts will be typed using initials in the place of names.

My plan is to analyze the data from the interviews in order to identify themes which may shed light on patterns of thinking among effective teachers. Analysis and interpretation will be reported anonymously. I plan to use direct quotes to illustrate interpretations. The only identifying feature which I anticipate using is the identification of the five year time span within which you were a Distinguished Teaching Award winner.

Although I will make every attempt to minimize the possibility of you being recognized, you should be aware that, given the small number of Distinguished Teaching Award winners within each five-year time span, there is a chance that you could be identified. If I deem it necessary to include other information which could further increase the possibility of identification, such as gender or discipline, I will request permission. I am also planning to make my data analysis and interpretation available for your comments, as well as copies of the interview transcripts should you so request.

Beyond the dissertation, I may wish to present my findings to a wider audience in the form of journal articles or conference presentations.

Your participation in this study is entirely voluntary. You are free to choose to not participate or to withdraw from participation at any stage without prejudice. Should you decide to withdraw, any data already collected from you will be deleted from the study. If you have any questions or concerns, I may be contacted at (H) 413-569-6903, (W) 413-

747-6374 or email: danderson@educ.umass.edu.

I, _____, have read the above statement and agree to participate in the interview process.

Signature of Participant

Signature of Researcher
Debra D. Anderson

Date

APPENDIX C

POST-INTERVIEW SUMMARY FORM

Date:_____ Interview time:_____to_____

Participant code:_____

1. Summarize information/themes heard during the interview in relation to major research questions.

   A. Definition of teaching

   B. Relationships to process, content and students

   C. Development as a teacher

   D. Motivation

   E. Meaning of the Distinguished Teaching Award

2. Note anything particularly interesting about the interview content, possibly worthy of followup.

3. Note researcher impression of/reaction to the interview content and participant.

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